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South Coast - Curry Timber Management Plan

Proposed Decision

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September 23, 1982

The Coos Bay District of the Bureau of Land Management is nearing completion of a comprehensive planning and decision process for the South Coast-Curry Sustained Yield Units (SCCSYU). The analytical work done by the District illustrated the on-the-ground impacts and the costs and benefits of various land uses and alternatives. When the Environmental Impact Statement (EIS) was published, comments received from interest groups and from many individuals expressed uncertainty and concern regarding precisely what uses of the forest land base were authorized under the terms of the O&C Act and applicable subsequent legislation. This prompted a major legal review and analysis of existing policy for the management of the O&C lands. As a result of these considerations, a set of management criteria defining the agency position for the O&C lands was issued by BLM Director Robert Burford. In considering the various alternatives presented in the EIS, we considered guidance from four major areas: laws and policies, economics, environment and public comment.

Overall, we are guided hy Bureau and Departmental policy which are formulated from various controlling laws. The management criteria developed and transmitted as part of this decision process represent the most up-to-date interpretation of the wide-ranging hody of legislation relating to the management of the O&C lands.

National concern is directed toward the state of the economy in general, and the plight of the wood products industry in particular. As we move toward our decision in our current cycle of timber management planning, our mandate to provide a high level of timber supply for the economic stability of dependent communities is of great importance. We believe our decision should strive to meet local, regional and national economic needs.

Another important area of concern is environmental quality. Allocations for watershed, riparian, scenic and recreation values are to be provided to balance the production of timber with the other resource values. Wildlife, for example, will be recognized and provided for when appropriate within legal and policy constraints. Additionally, in recognition of the potential importance of mid-age and old-growth timber stands to long-term timber productivity, we will remove a minimum representative acreage of commercial timber land from the intensive management base for the next 10-year planning period. At the same time, we will give high priority to getting the necessary information for future decisions by supporting and funding appropriate research.

Information and opinions furnished by the general public were carefully considered. The public comments on the EIS were fully considered. Input came from individuals, corporations, coalitions, special interest groups, school boards, state, county and other government agencies. This draft decision is built upon management concepts supported in various degrees by many groups, and at the same time is responsive to a reasoned public request to maintain or increase timber harvest.

The proposed decision is to manage the resources of the South Coast-Curry Sustained Yield Units on an even flow, sustained yield hasis providing annual timher sales of nearly 42 million cuhic feet (approximately 266 million board feet, Scribner 16-foot equivalent) during the next decade. This volume is predicated upon a high level of intensive timber management practices. It is also consistent with national policy direction that the Bureau "approach, meet, or exceed" the state's Forestry Program for Oregon.

Estimated annual economic benefits expected to flow from this production include the support of about 4,140 jobs with $57 million in earnings, an increase of 14 percent above the average employment level of the last 10-year planning period.

It is my belief that this proposed decision best meets most of the diverse needs and opportunities that were considered, and is consistent with governing policies and criteria. It has been authorized for release by the BLM State Director of Oregon/Washington for public review and comment. I hope that you will study this document in detail. A public meeting will be held in Coos Bay, Oregon during the comment period to assist in providing information on the proposed decision. We will receive your comments until November 8, 1982, and will carefully consider them. Subsequently, the State Director and I will publish a final decision on the timber management plan for the decade ahead.

Thomas W Rawles

District Manager

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Summary of the Proposed Decision

This is a summary of the proposed 10-year timber management plan for the Bureau of Land Management's Coos Bay District.

The central feature of the plan is the annual allowable harvest of nearly 42 million cubic feet (approximately 266 million board feet,MM bd. ft., Scribner 16-foot equivalent) of timber from the 306,230 acres of commercial forest land in the District. This level of timber production is 14 percent greater than the level of 234 MM bd. ft. which was set for the 1970s. The increase is expected to benefit the local economy, which is largely based on logging and the manufacture of wood products.

The commercial forest land base excludes District land which is not capable of annually producing at least 20 cubic feet of timber per acre, as well as roads, lakes and other non-forested areas. However, not all lands included in that definition are capable of sustained production and repeated harvest of timber. Also, provision must be made for other necessary land uses in addition to timber production. Considered in this planning process were such values as recreation, visual or scenic resources, wetlands and their inherent protection of water quality and wildlife habitat, and the protection of long-term timber productivity.

This plan allocates about 231,680 acres, or 76 percent of the commercial forest land, to intensive timber management. Practices to be followed there include timber harvest, site preparation for reforestation, tree planting, animal damage control, release of tree plantations from competing vegetation, precommercial thinning and fertilization. This land is expected to produce 247 MM bd. ft. of timber annually.

An additional 17 MM bd. ft. will be harvested annually from about 22,130 acres of Class III Visual Resource Management (VRM) land, representing 7 percent of the commercial forest land. On this land, activities such as timber harvest and road construction will appear subordinate to the characteristic landscape. Another 2 MM bd. ft. will be harvested annually from about 4,340 acres of Class II VRM land, where timber harvest and road construction will not be visually evident from major travel routes.

Commercial forest land (CFL) allocated to uses other than planned regular timber harvest include: 10,800 acres (4 percent of CFL) in riparian areas, which are wetlands along major streams; 22,140 acres (7 percent of CFL) designated as fragile areas, incapable of supporting sustained yield timber management using current technology; and about 14,960 acres (5 percent of CFL) of mid-age and old-growth seral stages of the forest. This last category represents a minimum amount of

these age classes of timber which is being temporarily reserved while research is underway to determine their importance to the long-term productivity of the forest.

Such areas contain a complex, interacting web of plant and animal relationships involving such processes as nitrogen fixation, mycorrhizal innoculation and others. Much is unknown, but portions of this web may well have a direct bearing on the productive capacity of the forest. The maintenance of these stages of ecological succession is represented in this plan by 22 large blocks of mid-age and old-growth timber averaging 476 acres in size, and 104 small blocks averaging 88 acres. The blocks are distributed geographically according to recognized tree seed zones and elevations. Reserving this advanced seral stage distribution system preserves options for future resource management which can be reevaluated for the next 10-year planning cycle.

Wildlife is provided for to the degree that habitat occurs on the more than 74,000 acres of CFL not subject to full, intensive timber management; and to a more limited extent on land managed primarily for timber production. This management may not maintain viable populations of all native wildlife species on BLM land, and will reduce the habitat of northern spotted owl.

The plan calls for an eventual timber harvest rotation length of 80 years. However, harvesting of 40-year-old trees would begin in about 30 years and continue for about 50 years during the transition to the regulated state.

An increase in funding for the Coos Bay District is necessary to fully implement the proposed decision. To support the intensive forest management practices which underwrite the growth basic to allowable cut would require $1.2 million annually. If budgetary authority is maintained at the Fiscal Year 1982 level, the amount of timber offered for sale would be increased only to about 249 MM bd. ft.

The following table compares salient features of this plan to the plan developed for the 1970s, and to the action proposed for this decade in the final Environmental Impact Statement.

Program Comparison

	Decade of the 1970s	Final EIS Proposed Action	Proposed Decision
Acres in Intensive Management	264,260	210,362	231,680
Acres in Constrained Management			
-VRM II	2,700 [1]	4,100	4,340
-VRM III		20,000	22,130
-Wildlife Habitat	4,200 [1]	36,500	0
Acres Withdrawn			
-Riparian Zones		10,800	10,800
-Fragile Sites		22,148	22,140
-Seral Stage Distribution		0	14,960
Allowable Cut	234 MM bd.ft.	218 MM bd.ft.	266 MM bd.ft.
Total Work-Years	3,627	3,408	4,130
Total Personal Income (x1000)	$49,842	$46,782	$56,658
Timber Sale Receipts (x1000) [2]	$65,286	$60,822	$74,214
Timber Sale Receipts (x1000) [3]	$29,952	$27,904	$34,048

[1] Acreage actually withdrawn in 1970 A.C. plan
[2] Using calendar year 1981 average selling price at $279/M bd. ft.
[3] Using fiscal year 1982 average selling price at $128/M bd. ft.

Introduction

Purpose and Scope

This document presents the proposed decision for the South Coast-Curry Timber Management Plan in the Bureau of Land Management's Coos Bay District. The rationale for the proposed decision was developed by analyzing the 10 alternatives presented in the Environmental Impact Statement on this plan. The proposed plan will be briefly described here, along with an assessment of the funding needed for full and partial implementation. More specifically, this document has the following major aims:

- To explain the substance and evolution of BLM policy and management criteria for O&C lands, and show their relationship to the proposed decision.

- To show how the proposed decision ties to the land-use planning and environmental assessment processes.

- To make explicit the environmental impacts that are significantly different from those of the proposed action in the Final Environmental Impact Statement.

This document is summary in nature and limited to those factors and data having a significant bearing on the decision. A more in-depth understanding of the plan can be gained by reviewing the final "South Coast-Curry Timber Management Environmental Impact Statement," Oregon State Office, BLM, March 1981.

Background

The South Coast-Curry Sustained Yield Units are comprised of 326,372 acres of public land in southwest Oregon. This area contains some of the most productive timber lands in the United States as well as highly valued wildlife, fisheries, recreational and visual resources. The basic land pattern of alternating public and private sections grew out of the Oregon and California Railroad and Coos Bay Wagon Road grants and subsequent revestment in 1916. Most of the intermingled private land is managed by wood-products firms.

The other federal lands represented in the planning area are the Siuslaw National Forest on the northern end and the Siskiyou National Forest along the southern portion. Bureau-managed lands comprise about 17 percent of the region and contain approximately 27 percent of the remaining saw timber volume.

In July 1971, an allowable cut of 234 million board feet (MM bd. ft.) was declared for the South Coast-Curry Sustained Yield Units.

Since then, BLM instituted new and improved procedures to guide the next allowable cut computations. The following briefly describes the application of these new developments to the current South Coast-Curry Timber Management Plan:

Inventory - Two new inventory procedures were established. The "Timber Production Capability Classification" (TPCC) system was designed to delineate lands suitable for sustained yield production of timber. The "Operations Inventory" was developed to subdivide the lands capable of sustained production into units by silvicultural need, such as precommercial thinning, vegetative control, etc. These two inventory efforts were completed on the District in 1977. They served as the base for the extensive forest inventory designed to provide overall growth and yield information for the allowable cut computation. This inventory was completed in 1978.

Multiple Use Planning - During the mid-1970s, the Coos Bay District launched an intensive effort in multiple use planning. To adequately support this effort, specialists were hired in recreation, landscape architecture, archaeology, geology, soils, wildlife and fisheries. In 1980, the District produced a proposed land use plan that served as the framework for the current timber management plan.

Public Participation - In 1977, the District began a program to communicate with the public about the planning activities as they were developing. The program used a variety of approaches including:

- Three formal public meetings.
- Seven mailings to approximately 600 concerned parties.
- Numerous meetings with various interest groups.
- Displays at Coos and Curry County Fairs.
- Direct media contacts.
- Seven news releases.
- Two meetings and one field trip with the Coos Bay District Advisory Council.
- Numerous personal discussions between District personnel and others.

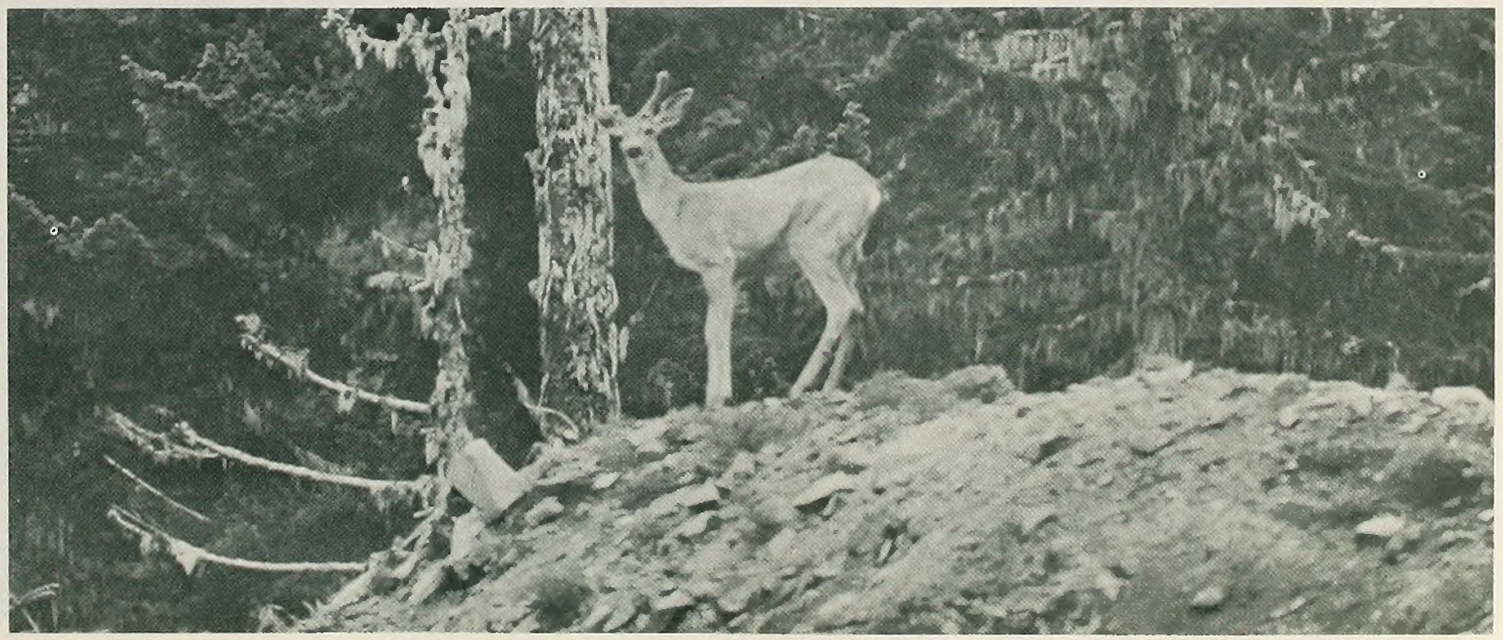
Public participation is an integral and ongoing part of the planning process that will continue and intensify until the final decision is reached.

Environmental Assessment - In the settlement of a suit brought by the Natural Resources Defense Council (NRDC v. Kleppe, Civil No. 75--1861), BLM agreed to an accelerated schedule of Environmental Impact Statement preparation on the series of timber management plans being developed in the 1980s. Before beginning this effort in Coos Bay, a public meeting was held (Nov. 13, 1979) to discuss the proposed Environmental Impact Statement (EIS); particularly the alternatives to be considered and important environmental factors to be analyzed. A draft EIS was prepared and released Aug. 16, 1980. A significantly revised final EIS was released March 27, 1981.

Timber Management Goal

The goals that have guided the formulation of the timber management plan were developed in the land-use planning process. The timber management goal can be stated as follows:

Produce and market the maximum volume of softwood timber consistent with the policy of sustained yield and in a manner that preserves the productivity of the forest and provides for an equitable balance of other authorized forest uses.



The emphasis of this goal on the production of timber is based upon the clear evidence of the need for, and importance of, softwood timber supplies on national, state and local levels. The Oregon State Board of Forestry, in its publication "Forestry Program for Oregon" (FPFO), points out that:

"The significance of Oregon's forests to our state and local economies is tremendous. Oregon contains 23 percent of the nation's standing softwood timber and produces 20 percent of the nation's softwood harvest. More than one-third of Oregon's economy is directly or indirectly dependent on timber industries. More than 75,500 workers, 8.3 percent of Oregon's industrial labor force, are employed directly in the lumber and wood products sector." [1]

[1] "Forestry Program for Oregon," Oregon State Board of Forestry, April 1977.

This relationship is even more dramatic in the communities within the South Coast-Curry Sustained Yield Units where more than one-half of all employment is directly or indirectly dependent upon the timber industry. Furthermore, the raw material needed to supply this critical industry in southwest Oregon is projected to decline by as much as 35 percent after 1995 under present management policies.[2] The Oregon State Forestry Department has analyzed all major forest ownerships to determine what level of production would minimize timber supply problems in each timbershed during the decade of the 1980s. The contribution called for from BLM's Coos Bay District is 251 MM bd. ft. (39.7 MM cubic feet) annually, an increase of approximately 7 percent over the current annual harvest level.

[2] "Timber for Oregon's Tomorrow", An analysis of Reasonable Possible Occurrences; John H. Beuter, K. Norman Johnson, H. Lynn Scheurman; Forest Research Laboratory, School of Forestry, Oregon State University; Research Bulletin 19, January 1976.

Another important aspect of the goal is the preservation of long-term forest productivity. Recent research studies [3] in the Pacific Northwest have strongly indicated that remnant stands of old-growth timber may hold the key to long-term maintenance of forest productivity. Complex interactions of plants and animals in these stands provide potential benefits such as nitrogen fixation, dispersal of mycorrhiza-forming fungi and gene pool preservation; all of which may prove to be essential to long-term timber production. Public input letters concerning both the draft and final EISs suggested that we should consider these attributes in arriving at our final decision. Additional research is needed to verify the extent and importance of these benefits. Both BLM and the Forest Service have launched a program to support such research during the next five years.

The issue that clearly emerges as one considers the timber management goal is the determination of what constitutes an "equitable balance" between timber production and other authorized forest uses. This issue, in essence, is the focus of the following two sections of this document.

[3] Ecological Characteristics of Old-growth Douglas-fir Forests, Jerry F. Franklin, Kermit Cromack, Jr., William Denison, Arthur McKee, Chris Maser, James Dedell, Fred Swanson, and Glen Juday; Pacific Northwest Forest and Range Experiment Station, General Technical Report PNW-118, February 1981.

Analysis of Alternatives

This portion of the document will discuss the biological-physical and economic relationships of each alternative presented in the final EIS. For biological-physical relationships, each alternative will be examined in terms of its impact on other resource values judged to be of primary importance to the proposed decision: wildlife, watershed and visual resources. Some resource values or activities did not significantly interact with the timber management plan: minerals, grazing, agriculture, land use for utilities and communication. Others have potential for significant interaction, but such interaction can be mitigated without substantial impact on the production of timber: cultural resources, endangered plants, air quality and recreation. These resources and activities will not be addressed in this analysis.

The following are conflicting goals for resource values developed in the planning process and are of major concern:

Wildlife - Develop and maintain habitat diversity in a manner that will provide for viable populations of all indigenous species of fish and wildlife. Such a goal requires the management of all naturally occurring habitat types to avoid their total loss or isolation. In turn, this should prevent the functional loss or genetic isolation of species dependent upon a habitat type. Intensive timber management can be compatible with a portion of this goal by providing younger habitat stages. With some minor modifications, it can also supply some of the special habitat needs such as snags, down logs and bald eagle habitat.

However, both riparian and old-growth habitats are particularly vulnerable to intensive timber management. To completely meet the wildlife goal, it would be necessary to have blocks of old-growth timber arranged across the District. These blocks would need to be relatively close (1 - 1.5 miles) to one another to avoid genetic isolation. Riparian areas are important to both the terrestrial wildlife and fisheries resources. Such areas can provide for the protection of water quality and serve as a food/energy source if maintained in a mature to old-growth state.

Watershed - Maintain or enhance basic soil productivity and water quality. The two major water quality problems of south coast streams are excessive sedimentation during periods of high flow and high temperatures during periods of low flow. Timber management practices are selected to minimize erosion and sedimentation under all alternatives. However, the level of protection given fragile areas and riparian zones is at issue.

Visual Resources - Protect and enhance scenic values consistent with the inherent scenic quality and sensitivity of an area. The land use planning process identified four classes of visual quality on the District. It was determined that the visual resource management objectives for the highest (Class I) and lowest (Class IV) classes did not conflict significantly with intensive timber management. There is little Class I land on the District and most of it is non-forest in nature. Intensive timber management is generally compatible with the Class IV designation.

Class II lands would be managed such that all management activities are not visually evident from critical viewpoints and travel routes. In the context of timber management, this objective would usually limit harvesting to partial cutting or small clearcuts that do not expose bare ground or skyline balds. It is estimated that a timber harvest rotation of 160 years would be needed to meet this objective.

Class III lands would be managed such that all management activities remain visually subordinate to the characteristic landscape. In most cases, this objective would impact the timber management program by limiting clearcut size, location and form. It is judged that a timber harvest rotation of about 80 years would be needed to meet this objective.

The amount of timber produced from the South Coast-Curry Sustained Yield Units has important economic implications for southwest Oregon. To establish a base from which to judge each alternative, the following economic indicators will be used:

1. Total Work/Years - This figure represents both the annual direct and indirect employment supported by the level of timber output. It should only be considered valid for the short run (10 years) in that it does not reflect long range improvement in productivity per worker that is projected to occur in the industry.

2. Percent of Total Employment Attributable to Proposed Harvest - This figure will provide some perspective on the overall effect of change in the harvest level on employment. Since impacts are expected to vary by county, the figure will be presented by county and for the four affected counties combined.

3. Total Earnings - This figure represents the annual direct and indirect earnings supported by the level of timber output.

4. Timber Sales Receipts - The level of receipts is important to local government as well as BLM since substantial portions of the funding of each are derived from this source. During the past several years, the District has experienced timber bid prices ranging from $327/M bd. ft. in 1980, to $128/M bd. ft. in the current badly depressed market. For purposes of comparison of alternatives in this document, the 1981 average bid price of $279/M bd. ft. will be used. This figure is felt to be representative of a reasonable price during normal market conditions. In fact, normalized price for the last 15 years, incorporating inflation, is estimated at $244/M bd. ft. The relative difference in receipts remains constant regardless of bid price used in computations.

5. Opportunity Cost - These figures will be the annual employment, earning and receipts estimated to be foregone by moving from a higher timber production alternative to a lower one.

In the following summary of each of the alternatives, there will be a pie-chart to illustrate the allocation of land uses in that alternative. The whole pie will be equal to that land in the District which can be used for growing timber at the nationally accepted rate of at least 20 cubic feet per acre per year (commercial forest land); it will not include roads, bodies of water or other non-productive areas.

The shaded portion of each pie will represent Regulated area; that land included in the timber production base used to compute the annual harvest. This is the producing timberland. Of the shaded portion, the more darkly shaded area represents land where timber production is the highest priority and is not significantly reduced by other land uses. It will be labeled Regulated/Non-Constrained.

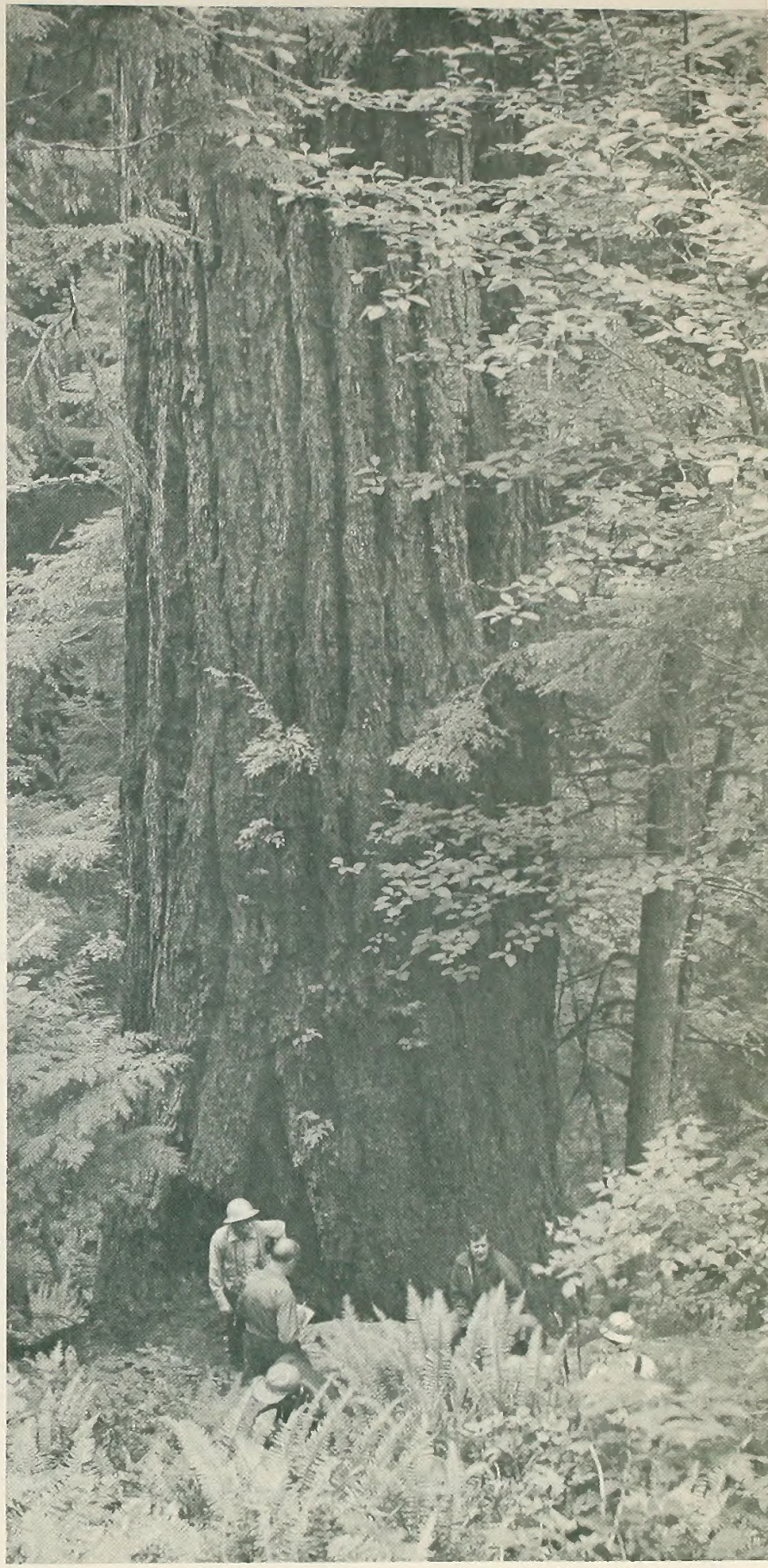
The more lightly shaded portion of the pie, where present, also represents productive timberland, but it is land where timber production is constrained by other uses. Here, timber production may not be the primary use, but still the timber is regularly harvested. This will be labeled Regulated/Constrained.

The unshaded part of the pie, present in some of the alternatives, represents land not included in the timber production base used to compute the annual harvest level. Timber may still be harvested from these areas, but only when doing so enhances other resource values such as water quality, fish, wildlife or future forest productivity. Small amounts of harvested timber from these areas will be in addition to the computed allowable cut level. Unshaded portions of the pie will be termed Non-Regulated.

There will be other divisions of land use allocation within these three major types; they will be suitably labeled. All wedges of the pie will be labeled to indicate their percentage of the 306,000-acre total commercial forest land.

The alternatives that follow are identical to those described in the final EIS. However, they have been rearranged to put them in order from highest to lowest timber production.

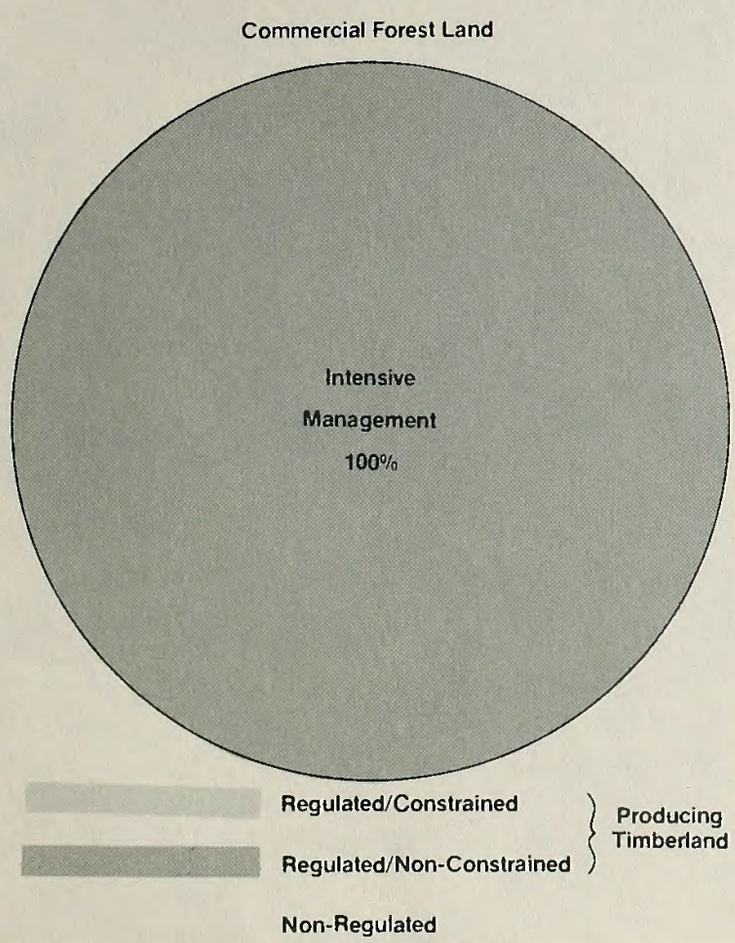
All allowable harvest levels were computed in cubic feet and this will be the unit used to maintain control: depletion, growth, etc. Because the Scribner board foot is the most commonly understood unit of measure, we have converted all cubic foot measurements to Scribner board feet (16-foot logs) in this section.



A. "Maximum Timber Production" (final EIS Alt. 10)

This alternative would devote all commercial forest land (306,000 acres) to the intensive production of timber. Included in this production base would be 22,148 acres judged to be incapable of sustained yield timber production without significant site degradation. Timber stands available for final harvest would have an average minimum size of 13 inches dbh, which is normally reached in 40 years. Harvest at this size would begin in about 30 years, and continue for 50 years. As a result, all timber 50 years and older would be removed from the forest by the end of the third decade.

A major increase in the allowable harvest would occur in the fifteenth decade at which time the forest would be in a "surplus" state, that is, more harvest-age timber (80+) would be available than necessary to maintain the allowable harvest at the biological optimum. A fully regulated forest would be achieved in the twenty-first decade at which time the harvest level would be approximately 460 MM bd. ft. A fully regulated forest is characterized by an even distribution of age classes with the oldest being the age at which growth rate peaks. This is projected to be approximately 80 years. During the first decade, an annual timber sale program of 325 MM bd. ft. would be produced by harvesting approximately 55,000 acres. Lands designated for other resource uses would be limited to existing recreation sites and lands classed as non-commercial or non-forest.



Economic Situation

1. Total Annual Work/Years = 5,052

2. Percent of Total Employment Attributable to BLM Harvest Level

County	Percent
Coos	10.0
Curry	1.5
Douglas	3.7
Lane	0.3
Combined	2.3

3. Total Annual Earnings (x 1000) = $69,344

4. Annual Timber Sale Receipts (x 1000) = $90,675

5. Annual Opportunity Cost
(Not applicable for this alternative since this is the level to which the other alternatives will be compared.)

Biological-Physical Environment

Wildlife - This alternative would eliminate old-growth and riparian habitat types over a 30-year period. There is a high probability that viable populations of species that find their optimum habitat in these types could disappear from BLM land and from the EIS area generally (See final EIS, Appendix F for species list). One of these species would be the northern spotted owl, which the State of Oregon considers to be threatened. The loss of riparian habitat would have a significant negative impact on the production of anadromous fish. Obviously, this alternative would not meet the goal established for wildlife habitat management. Most importantly, implementation of this alternative would preclude the adoption of a habitat diversity program at the next 10-year planning cycle. Much of the old-growth would be gone and that which remained would not be in a spatial pattern that could be effectively used.

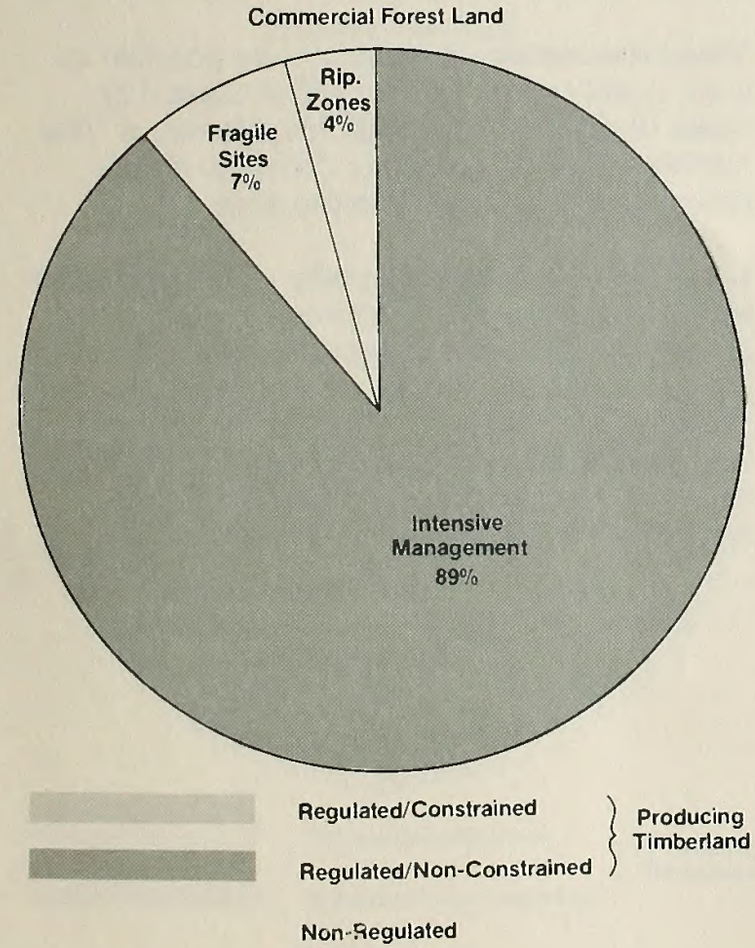
Watershed - The protection of riparian areas around streams of third order and larger is considered essential to the assured maintenance of water quality. Elimination of major vegetation in this zone allows no margin for error if "best management practices" are not fully successful. The harvesting of 22,148 acres of fragile sites would be counter to the soil productivity maintenance objective contained in both the watershed and timber management goals. As an indicator of soil and water quality impact, this alternative is estimated to produce 223,800 tons of erosion and 15,600 tons of sediment during the first decade.

Visual Resources - It would not be possible to meet quality objectives for either Class II or Class III visual areas under this alternative. Visual quality would be degraded along major travel routes such as Highways 38, 42 and 101.

Long-range Timber Productivity - This alternative would not maintain an adequate representation of functioning old-growth ecosystems by the end of the first decade. Should research clearly establish the importance of some aspect or component of the old-growth ecosystem to long-term timber production, the replication of this critical element may not be possible.

B. "Emphasis on Timber Production" (final EIS Alt. 1)

This alternative would devote 273,282 acres to the intensive production of timber. Approximately 10,800 acres of riparian zones on third order and larger streams would be excluded from regulated harvest, as would the 22,148 acres of fragile sites. Timber stands available for final harvest would have an overall minimum size of 16 inches dbh, which is normally reached in 50 years. Harvest at this size would occur from the beginning of the fourth to the sixth decade. A major increase in the allowable harvest would occur in the eighth decade at which time the forest would be in a "surplus" state. Note that this state is reached seven decades sooner than that predicted under the previous alternative with a 13-inch dbh minimum harvest size. In addition, full regulation would be reached in the sixteenth decade rather than the twenty-first. This relationship tends to hold true for all alternatives, that is, a decrease in the minimum harvest size tends to increase the immediate harvest level, but lengthen the time to further allowable harvest increases and full regulation. An annual timber sale program of 272 MM bd. ft. would be produced by harvesting approximately 46,200 acres during the first decade.



Economic Situation

1. Total Annual Work/Years = 4,235

2. Percent of Total Employment Attributable to BLM Harvest Level

County	Percent
Coos	8.4
Curry	1.2
Douglas	3.1
Lane	0.3
Combined	2.0

3. Total Annual Earnings (x 1000) = $58,138

4. Annual Timber Sale Receipts (x 1000) = $75,888

5. Annual Opportunity Costs - The adoption of this alternative would forego the following benefits when compared to the indicated alternatives:

		Maximum Timber Alternative "A"
a. Total Work/Years	=	807
b. Total Earnings (x 1000)	=	$11,206
c. Timber Sale Receipts (x 1000)	=	$14,787

Biological-Physical Environment

Wildlife - This alternative would eliminate all but approximately 10,000 acres of old-growth habitat by the third decade. There is a high probability that viable populations of species that find their optimum habitat in old-growth would disappear from BLM land. Implementation of this alternative would preclude the adoption of a habitat diversity program in the next 10-year planning cycle.

Preservation of riparian habitat would benefit many species of terrestrial wildlife. It also would enable BLM to move ahead with an intensive program aimed at increasing the production of anadromous fish.

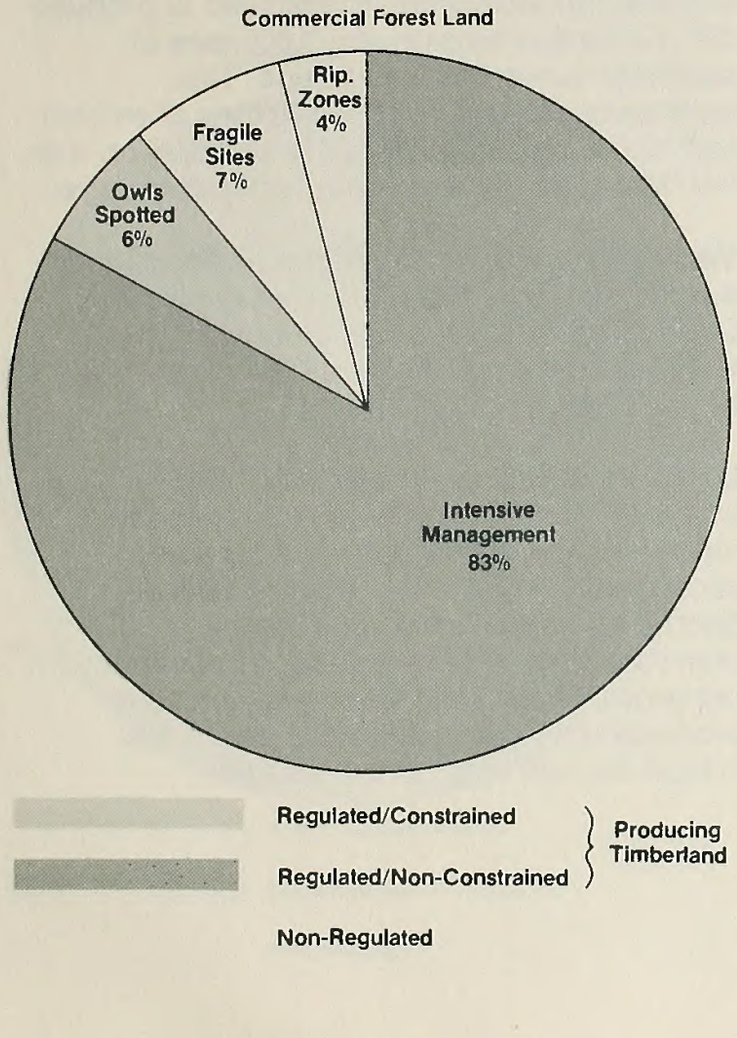
Watershed - The protection of major riparian areas and fragile sites under this alternative would allow the attainment of watershed goals. As an indicator of soil and water quality impacts, this alternative is estimated to produce 207,300 tons of erosion and 3,600 tons of sediment during the first decade. This represents a decrease of 16,500 tons of erosion and 12,000 tons of sediment in comparison with the "Maximum Timber Production" alternative.

Visual Resources - It would not be possible to meet quality objectives for either Class II or Class III visual areas under this alternative. Visual quality would be degraded along major travel routes.

Long-range Timber Productivity - This alternative would not maintain an adequate representation of functioning old-growth ecosystems by the end of the first decade. Should research clearly establish the importance of some aspect or component of the old-growth ecosystem to long-term timber production, the replication and use of this critical element may not be possible.

C. "Emphasis on Timber Production Consistent with the Spotted Owl Management Plan" (final EIS Alt. 2)

This alternative would devote 254,250 acres to the intensive production of timber. Approximately 18,800 acres would be managed for the protection of the northern spotted owl by placing the area on an extended (350-year) rotation. In other respects, this alternative is identical to the "Emphasis on Timber Production" alternative. An annual timber sale program of 251 MM bd. ft. would be produced by harvesting approximately 42,700 acres during the first decade.



Economic Situation

1. Total Annual Work/Years = 3,911
2. Percent of Total Employment Attributable to BLM Harvest Level

County	Percent
Coos	7.8
Curry	1.2
Douglas	2.9
Lane	0.3
Combined	1.8

3. Total Annual Earnings (x 1000) = $53,675

4. Annual Timber Sale Receipts (x 1000) = $70,029

5. Annual Opportunity Costs - The adoption of this alternative would forego the following benefits when compared to the indicated alternatives

	Previous Alternative "B"	Maximum Alternative "A"
a. Total Work/Years	324	1,411
b. Total Earning (x 1000)	$4,463	$15,669
c. Timber Sale Receipts (x 1000)	$5,859	$20,646

Biological-Physical Environment

Wildlife - This alternative would provide adequate habitat for 16 pairs of northern spotted owls based on the original recommendations of the Oregon Endangered Species Task Force. The original guidelines called for a 1,200-acre range for each pair of owls, containing at least 300 acres of old growth. Recent revisions of the guidelines call for a 4,500-acre range with 1,000 acres of old growth. If the assumptions that underlie the revision of these guidelines prove correct, the same acreage would provide adequate habitat for only five pairs. Currently, 25 pairs are known to exist on the District. Essentially, this is a single species alternative, that is, it is aimed specifically at the northern spotted owl. While some other old-growth dependent species may benefit from the maintenance of old-growth for owls, it will not provide adequate habitat for viable populations of most species. Generally speaking, the northern spotted owl areas are not close enough to avoid genetic isolation for species with limited mobility. Implementation of this alternative would probably preclude the adoption of a habitat diversity program in the next 10-year cycle.

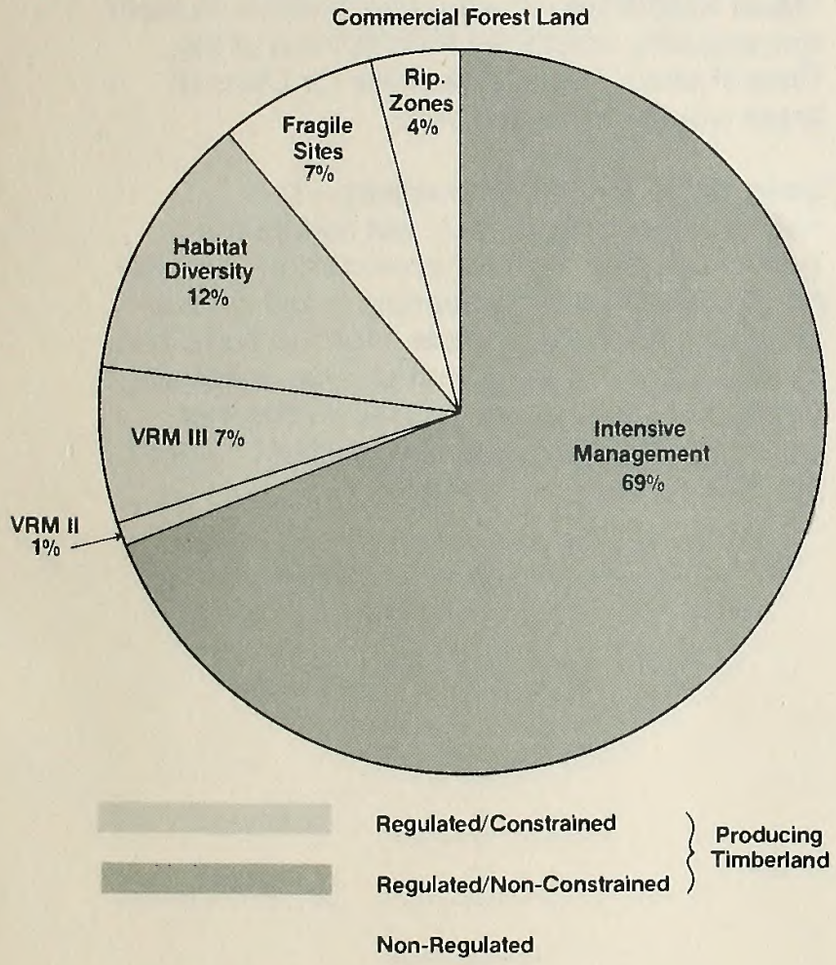
Watershed - This alternative would allow the attainment of watershed goals. As an indicator of soil and water quality impacts, this alternative is estimated to produce 203,700 tons of erosion and 3,400 tons of sediment during the first decade. This represents a decrease of 3,600 tons of erosion and 200 tons of sediment in comparison with the previous alternative.

Visual Resources - It would not be possible to meet quality objectives for either Class II or Class III visual areas under this alternative. The northern spotted owl areas generally do not coincide with visually sensitive areas.

Long-term Timber Productivity - This alternative would provide widely scattered large blocks of old-growth. However, adequate representation of seed zones and elevations would not be available, with possible negative impacts on long-term timber productivity. In addition, floral and faunal gene flow of old-growth related species would be precluded in many areas.

D. "Proposed Action with Lower Average Minimum Harvest Size" (final EIS Alt. 6)

This alternative would devote 210,362 acres to the intensive production of timber. Approximately 36,500 acres would be managed on an extended (350-year) rotation to provide for the old-growth component of habitat diversity. Such management would have large blocks (940 acres) of mid-age and old-growth forest linked by 80-acre "stepping stones" of similar-aged stands forming a discontinuous corridor on BLM-administered lands. About 4,100 acres would be managed to meet Class II visual objectives and 20,000 acres to meet Class III visual objectives. Riparian zones and fragile sites would be managed as described in alternatives B and C. Timber stands available for final harvest on the intensively managed lands would have an average minimum size of 13 inches dbh, which is normally reached in 40 years. Harvest at this size would occur from about the fourth through the eighth decades. The intensively managed forest would reach a "surplus" state in about the fifteenth decade and a regulated state in the twenty-first decade with an estimated harvest level at that time of about 270 MM bd. ft. annually. During the first decade, an annual timber sale program of 244 MM bd. ft. would be produced by harvesting approximately 40,900 acres. Note that the final EIS listed an annual harvest level of 239 MM bd. ft. for this alternative. Correction of some acreage errors and a more precise computer analysis resulted in the new annual harvest level.



Economic Situation

1. Total Annual Work/Years = 3,782
2. Percent of Total Employment Attributable to BLM Harvest Level

County	Percent
Coos	7.6
Curry	1.1
Douglas	2.8
Lane	0.3
Combined	1.7

3. Total Annual Earnings (x 1000) = $52,277

4. Annual Timber Sale Receipts (x 1000) = $68,076

5. Annual Opportunity Costs - The adoption of this alternative would forego the following benefits when compared to the indicated alternatives

	Previous Alternative "C"	Maximum Timber Alternative "A"
a. Total Work/Years	129	1,270
b. Total Earnings (x 1000)	$1,398	$17,067
c. Timber Sale Receipts (x 1000)	$1,953	$22,599

Biological-Physical Environment

Wildlife - This alternative would provide habitat diversity at the minimum level necessary to meet wildlife goals by supplying spatially oriented old-growth stands. While population counts of species favoring old-growth would decline significantly, there is a reasonable probability that at least viable populations would remain. The 16 pairs of northern spotted owls would be protected with this alternative under the original task force guidelines.

Watershed - This alternative would allow the attainment of watershed goals. As an indicator of soil and water quality impacts, this alternative is estimated to produce 201,500 tons of erosion and 3,200 tons of sediment during the first decade. This represents a slight decrease from Alternative "C." (Spotted Owl Management).

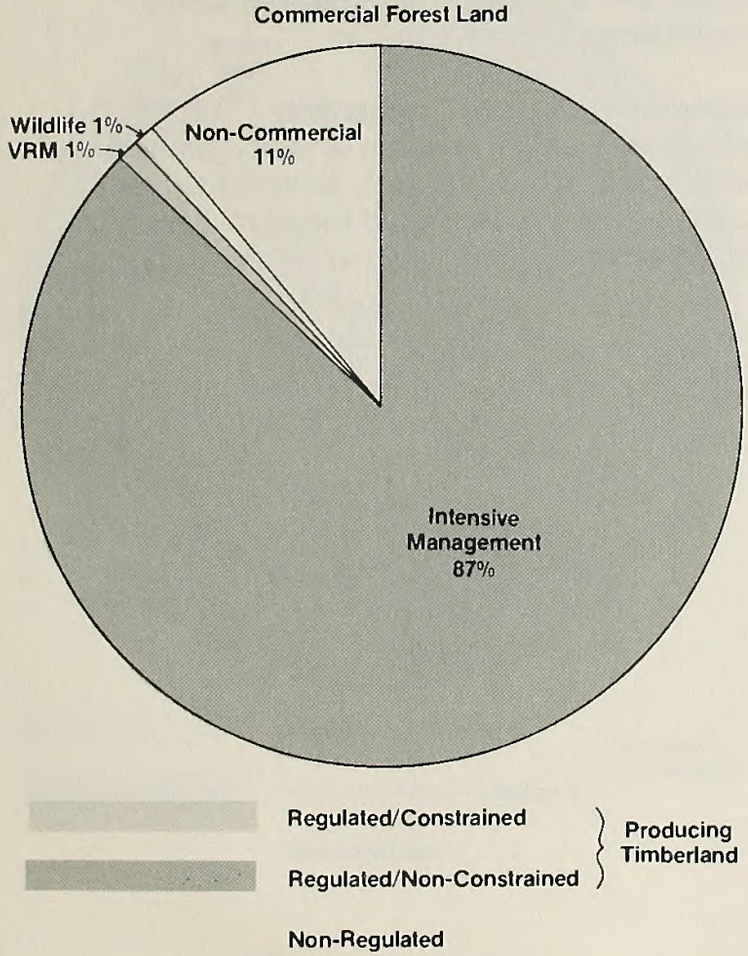
Visual Resources - Objectives for Class II and Class III visual areas could be met under this alternative. Visual quality on BLM lands along major and secondary travel routes would maintained.

Long-range Timber Productivity - This alternative would maintain a basic framework of old-growth stands spatially oriented by seed zone and elevation should they prove necessary to preserve long-term timber productivity.

E. "No Action - No Change" (final EIS Alt. 8)

This alternative is basically a continuation of the 1971 timber management plan. The intensive timber production base would be 264,260 acres. Approximately 4,200 acres would be withdrawn from regulated harvest for wildlife and about 2,700 acres of high quality scenic areas would be protected. Major streams would receive some protection by minimal buffer strips, although harvesting would not be precluded in such areas. The intensity of timber management would be somewhat less than that proposed for the other alternatives. Generally speaking, there would be less precommercial thinning and no fertilization.

Timber stands available for final harvest would have an average minimum harvest size of about 21 inches dbh, which is normally reached in 70 years. The forest would reach a regulated state in about the eleventh decade.



An annual timber sale plan of 234 MM bd. ft. would be produced. Most of the land identified as being incapable of sustained yield management by the Timber Production Capability Classification inventory would be available for harvest. The TPCC inventory came after the development of the 1971 plan.

Economic Situation

1. Total Annual Work/Years = 3,627

2. Percent of Total Employment Attributable to BLM Harvest Level

County	Percent
Coos	7.2
Curry	1.1
Douglas	2.7
Lane	0.3
Combined	1.7

3. Total Annual Earnings (x 1000) - $49,842

4. Annual Timber Sale Receipts (x 1000) = $65,286

5. Annual Opportunity Costs - The adoption of this alternative would forego the following benefits when compared to the indicated alternatives:

	Previous Alternative "D"	Maximum Timber Alternative "A"
a. Total Work/Years	155	1,425
b. Total Earnings (x 1000)	$2,435	$19,502
c. Timber Sale Receipts (x 1000)	$2,790	$32,669

Biological-Physical Environment

Wildlife - This alternative would eliminate all but a small portion of the old-growth type by the end of the third decade. There is a high probability that viable populations of species which find their optimum habitat in this type would disappear from BLM land (See final EIS, Appendix F for Species List). The limited buffer strips proposed under this alternative would not fully maintain riparian areas, and the potential for increased production of anadromous fish would be limited. Implementation of this alternative would probably preclude the adoption of a habitat diversity program at the next 10-year planning cycle.

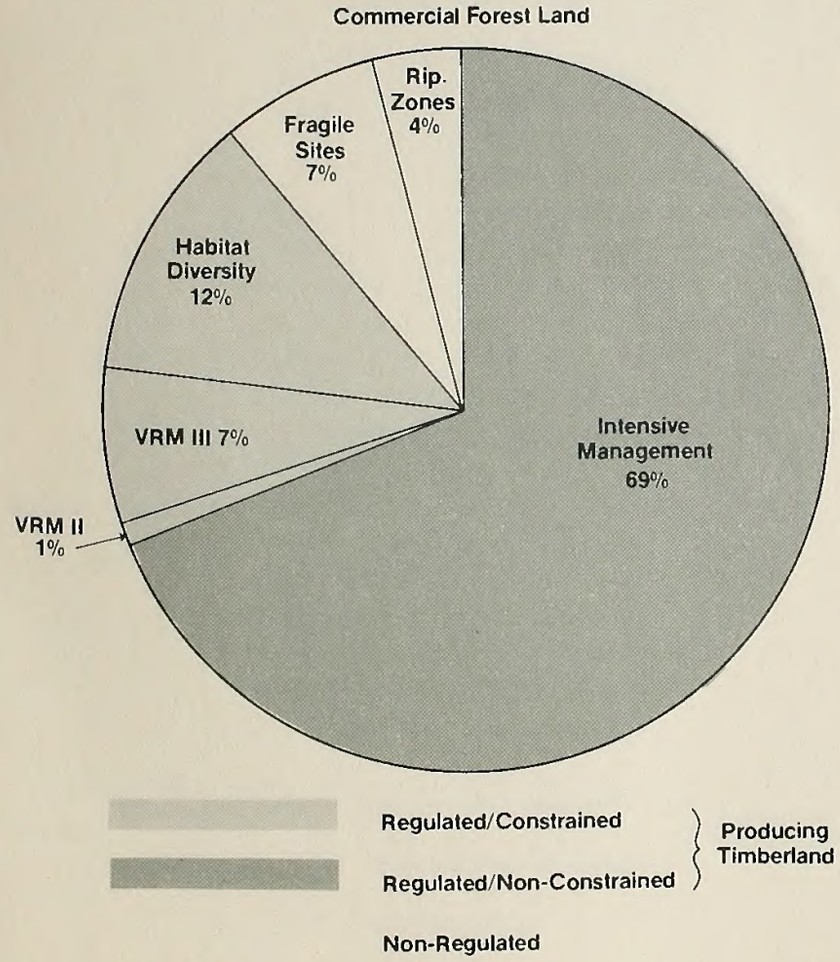
Watershed - Use of limited buffer rather than full riparian zone protection allows little margin for error if "best management practices" are not successful. The harvesting of fragile areas is counter to both watershed and timber management goals.

Visual Resources - It would be possible to meet visual quality objectives for a portion of the Class II areas. Visual objectives for Class III areas would not be achieved.

Long-range Timber Productivity - This alternative would probably not maintain a system of old-growth for preservation of timber productivity. While the quantity of old-growth remaining after one decade might be sufficient, its spatial pattern would not provide adequate coverage of seed zones and elevations, nor would constraints be applied to afford protection during the decade.

F. "The Final EIS Proposed Action"

This alternative is identical in terms of land use to Alternative "D" ("Proposed Action with Lower Average Harvest Size"). In Alternative "F," stands available for final harvest on the intensive base would have an average minimum size of 16 inches dbh rather than 13 inches dbh. The net effect of this difference is to shorten the time until the forest reaches its maximum productive state (regulated forest) from about 210 years to 150 years. In addition, the time until the next allowable harvest increase would be shortened from 150 years to 90 years. The total production of wood over the next 210 years would be approximately 3 percent higher than under Alternative "D." This results primarily because Alternative "D" causes the harvest of the forest to be focused in young stands that are below their optimum biological growth level (culmination of mean annual increment) for a longer period of time.



Essentially, the higher minimum harvest size in Alternative "F" is a more biologically efficient way of bringing the forest to regulation. However, this efficiency comes at the cost of a lower current allowable cut. An annual timber sale program of 218 MM bd. ft. would be produced by harvesting approximately 37,100 acres during the first decade.

Economic Situation

1. Total Annual Work/Years = 3,408

2. Percent of Total Employment Attributable to BLM Harvest Level

County	Percent
Coos	6.8
Curry	1.1
Douglas	2.5
Lane	0.2
Combined	1.6

3. Total Annual Earnings (x 1000) - $46,782

4. Annual Timber Sale Receipts (x 1000) = $60,822

5. Annual Opportunity Costs - The adoption of this alternative would forego the following benefits when compared to the indicated alternatives:

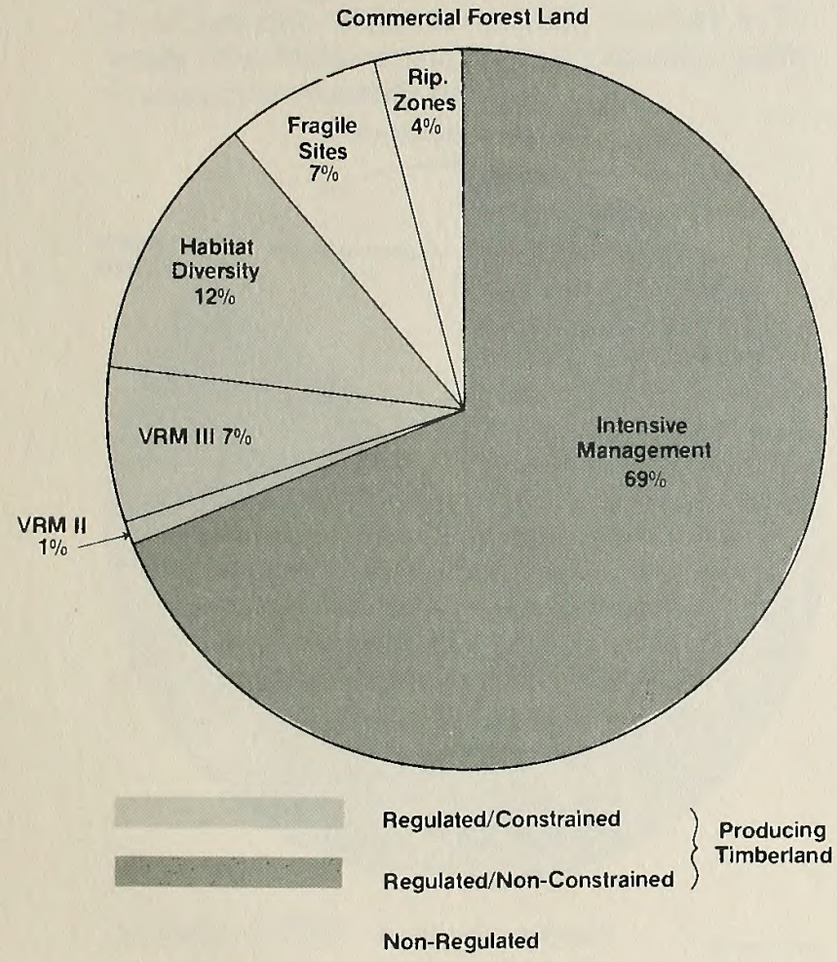
	Previous Alternative "E"	Maximum Timber Alternative "A"
a. Total Work/Years	219	1,644
b. Total Earnings (x 1000)	$3,060	$22,562
c. Timber Sale Receipts (x 1000)	$4,464	$29,853

Biological-Physical Environment

Major biological-physical environmental relationships would be nearly identical to those described for Alternative "D." There would be some minor improvement in wildlife, watershed and visual resources as a result of the reduced final harvest level.

G. "No Control of Competing Vegetation with Herbicides" (final EIS Alt. 4)

This alternative is identical in terms of land use to Alternatives "D" and "F." The difference in Alternative "G" is that herbicides would not be used to control grass, brush or hardwood species growing in competition with commercial coniferous tree species. Control of vegetation for timber management by using biological, mechanical or manual means would be prescribed at approximately the same investment cost as the use of herbicides in Alternative "F" (final EIS Proposed Alternative) to provide a means of direct comparison between the two alternatives. An annual timber sale program of 203 MM bd. ft. would be produced by harvesting approximately 34,900 acres during the first decade. Continuation of the "no herbicide" alternative beyond the first decade would result in greater reduction in future potential timber productivity of about 35 percent in approximately eight decades.



Economic Situation

1. Total Annual Work/Years = 3,180

2. Percent of Total Employment Attributable to BLM Harvest Level

County	Percent
Coos	6.3
Curry	1.0
Douglas	2.4
Lane	0.2
Combined	1.5

3. Total Annual Earnings (x 1000) - $43,640

4. Annual Timber Sale Receipts (x 1000) = $56,637

5. Annual Opportunity Costs - The adoption of this alternative would forego the following benefits when compared to the indicated alternatives:

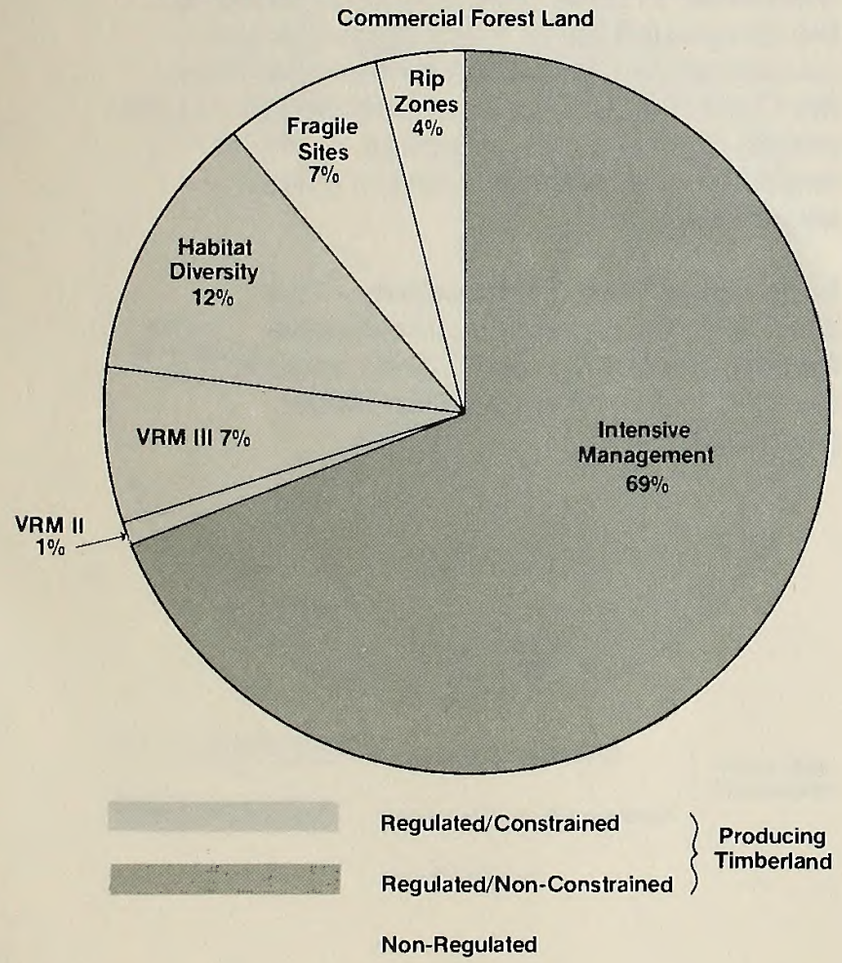
	Previous Alternative "F"	Maximum Timber Alternative "A"
a. Total Work/Years	228	1,872
b. Total Earnings (x 1000)	$3,322	$25,704
c. Timber Sale Receipts (x 1000)	$4,185	$34,038

Biological-Physical Environment

Major biological-physical environmental relationships would be nearly identical to those described for Alternative "D." There would be some minor improvement in wildlife, watershed and visual resources as the result of a reduced harvest level. Also, some improvement in big game forage and habitat diversity could result from less control of brush and hardwoods.

H. "No Allowable Cut Effect" (final EIS Alt. 7)

This alternative is identical in terms of land use to Alternatives "D," "F" and "G." The difference is that credit for expected increased yields from intensive timber management practices (genetically improved stock, fertilization, precommercial and commercial thinnings) would not be taken until gains are realized in future inventories. It is Bureau policy to take credit in allowable-cut planning for the present and future effects of practices that are environmentally, technically and economically feasible (BLM Manual 5240). Such credit is taken by harvesting timber that is excess to the amount necessary to maintain an even flow at the non-intensive management level. This procedure has been termed the "Allowable Cut Effect" (ACE). In the SCCSYU, there was only sufficient harvest age timber to take credit for about 40 percent of projected future yields. The "Allowable Cut Effect" was used for all alternatives except Alternative "H." An annual timber sale program of 189 MM bd. ft. would be produced under this alternative by harvesting approximately 33,900 acres during the first decade.



Economic Situation

1. Total Annual Work/Years = 2,961

2. Percent of Total Employment Attributable to BLM Harvest Level

County	Percent
Coos	5.9
Curry	0.9
Douglas	2.2
Lane	0.2
Combined	1.4

3. Total Annual Earnings (x 1000) - $40,885

4. Annual Timber Sale Receipts (x 1000) = $52,731

5. Annual Opportunity Costs - The adoption of this alternative would forego the following benefits when compared to the indicated alternatives:

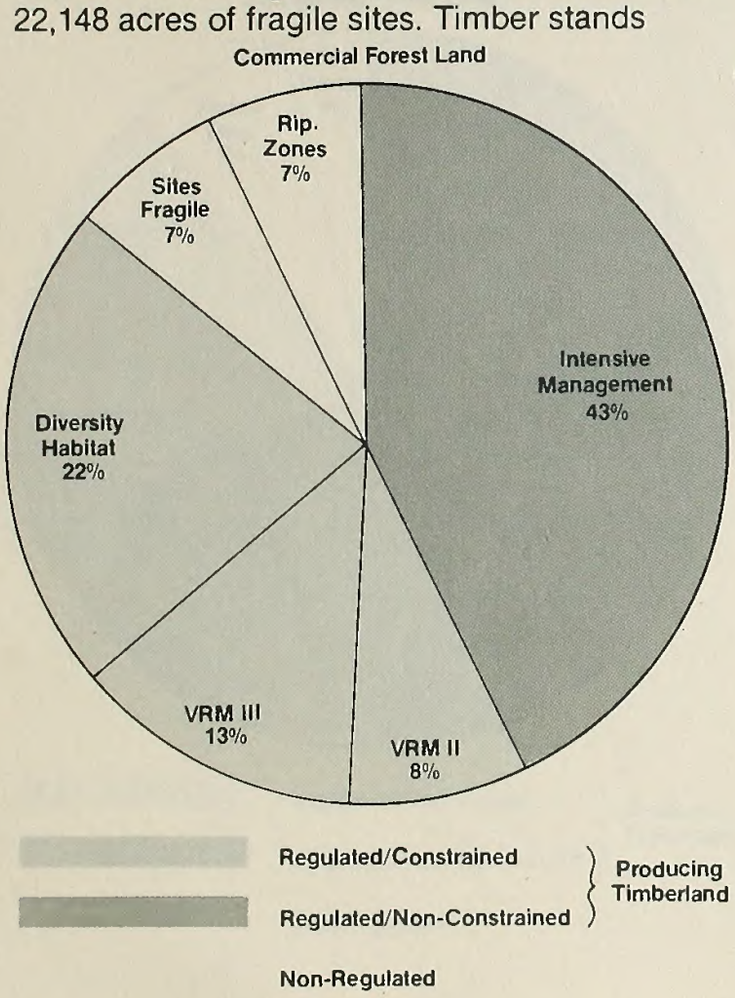
	Alternative "F" Proposed Action	Maximum Timber Alternative "A"
a. Total Work/Years	447	2,091
b. Total Earnings (x 1000)	$5,897	$28,449
c. Timber Sale Receipts (x 1000)	$8,091	$37,944

Biological-Physical Environment

Major biological-physical relationships would be similar to those described for Alternative "D." There would be some improvement in wildlife, watershed and visual resources as a result of the reduced harvest level. As an indicator of soil and water quality impacts, this alternative is estimated to produce 193,300 tons of erosion and 2,673 tons of sediment. This represents a decrease of 4,700 tons of erosion and 330 tons of sediment in comparison with Alternative "F" (final EIS Proposed Action).

I. "Emphasis on Non-Timber Values" (final EIS Alt. 3)

This alternative would devote 131,844 acres to the intensive production of timber. Approximately 66,150 acres would be managed on an extended (350-year) rotation to provide for the old-growth component of habitat diversity. Unlike the corridor approach used in Alternatives "D," "F," "G" and "H," this alternative provides for a distribution of mid-age and old-growth stands throughout the District. Each township would contain at least one 640-acre block and each section would have an 80-acre block of mid-age and old-growth stages. About 24,900 acres would be managed to meet Class II visual objectives and 39,000 acres to meet Class III visual objectives. Approximately 20,900 acres of riparian zones on second order and larger streams would be excluded from regulated harvest as would the 22,148 acres of fragile sites. Timber stands available for final harvest on the intensive base would have an average minimum size of 16 inches dbh, which is normally reached in 50 years. An annual timber sale program of 150 MM bd. ft. would be produced by harvesting approximately 25,600 acres during the first decade.



Economic Situation

1. Total Annual Work/Years = 2,443

2. Percent of Total Employment Attributable to BLM Harvest Level

County	Percent
Coos	4.9
Curry	0.7
Douglas	1.8
Lane	0.2
Combined	1.1

3. Total Annual Earnings (x 1000) - $33,534

4. Annual Timber Sale Receipts (x 1000) = $41,850

5. Annual Opportunity Costs - The adoption of this alternative would forego the following benefits when compared to the indicated alternatives:

	Alternative "F" Proposed Action	Maximum Timber Alternative "A"
a. Total Work/Years	965	2,609
b. Total Earnings (x 1000)	$13,248	$35,810
c. Timber Sale Receipts (x 1000)	$18,982	$48,825

Biological-Physical Environment

Wildlife - This alternative would meet the habitat diversity goal by supplying well spaced mid-age and old-growth stands as well as riparian areas. While population counts of species favoring old-growth would decline, there is a high probability that viable populations would remain. It is anticipated that the current population of 25 pairs of northern spotted owls could be maintained using current guidelines.

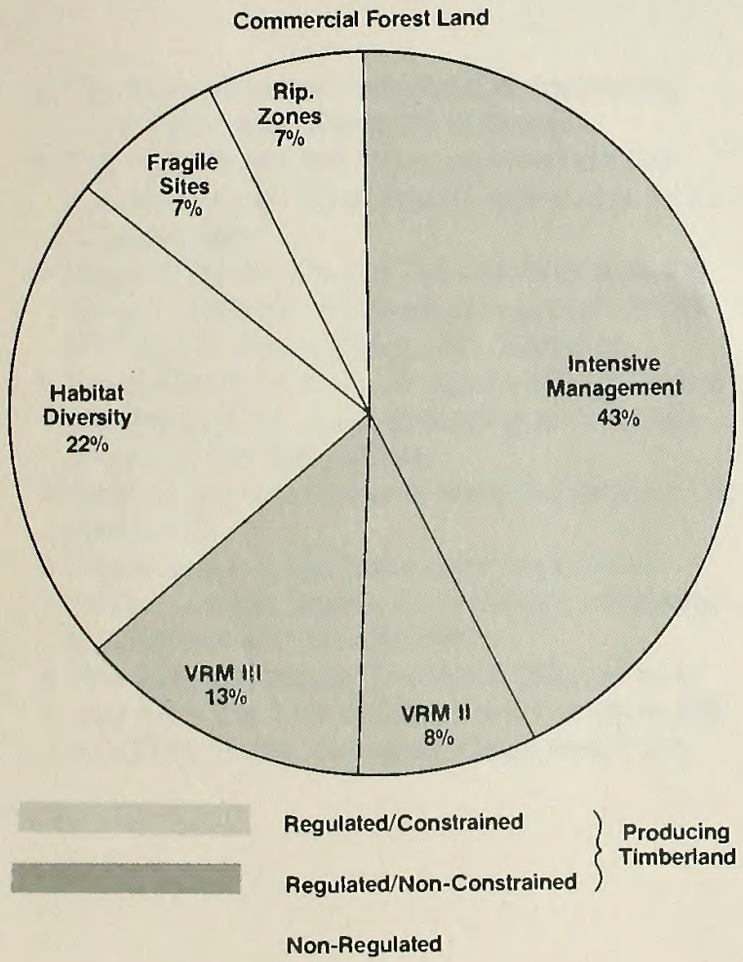
Watershed - This alternative would provide a high probability that watershed goals would be attained. As in indicator of soil and water quality impacts, this alternative is estimated to produce 137,200 tons of erosion and 2,070 tons of sediment during the first decade. This represents a decrease of 60,800 tons of erosion and 929 tons of sediment in comparison with Alternative "F" (final EIS Proposed Action).

Visual Resources - Visual quality would be maintained to a higher level under this alternative. In other alternatives, for example, the foreground along major highways was considered as Class II. Under this alternative, the Class II objectives were extended to include middle ground and background. A similar extension was made for Class III in less sensitive areas.

Long-range Timber Productivity - This alternative would provide an extensive framework of old-growth stands spatially oriented to preserve long-term timber productivity.

J. "Emphasis on Wildlife Habitat plus Other Non-timber Values (final EIS Alt. 9)

This alternative has essentially the same land use allocation as Alternative "I." However, the 66,150 acres of old-growth for habitat diversity would be completely withdrawn from regulated harvest under this alternative. In addition, a spatial constraint of 25 years on adjacent clearcuts would be applied to provide a better cover/forage relationship for deer and elk. This is done to help counter the downward population trends forecast under all alternatives. An annual timber sale program of 129 MM bd. ft. would be produced by harvesting approximately 21,300 acres during the first decade.



Economic Situation

1. Total Annual Work/Years = 2,029

2. Percent of Total Employment Attributable to BLM Harvest Level

County	Percent
Coos	4.0
Curry	0.6
Douglas	1.5
Lane	0.2
Combined	0.9

3. Total Annual Earnings (x 1000) - $27,841

4. Annual Timber Sale Receipts (x 1000) = $35,991

5. Annual Opportunity Costs - The adoption of this alternative would forego the following benefits when compared to the indicated alternatives

	Previous Alternative "I"	Maximum Timber Alternative
a. Total Work/Years	414	3,023
b. Total Earnings (x 1000)	$5,693	$41,503
c. Timber Sale Receipts (x 1000)	$5,859	$54,684

Biological-Physical Environment

Major biological-physical environmental relationships would be similar to those described for Alternative "I." There would be some minor improvements in watershed and visual resources as a result of the reduced final harvest level. In the short run, the 15-year spatial constraint on clearcutting should slow the projected decline in elk and deer populations.

Environmental Preferability

The criteria used to judge environmental preferability among alternatives are the goals established in Title I, Section 101 of the National Environmental Policy Act (NEPA) of 1969, as follows:

1. Fulfill the responsibilities of each generation as trustee of the environment for succeeding generations.

2. Assure for all Americans safe, healthful, productive and esthetically and culturally pleasing surroundings.

3. Attain the widest range of beneficial uses of the environment without degradation, risk to health or safety, or other undesirable and unintended consequences.

4. Preserve important historic, cultural and natural aspects of our national heritage; and maintain, wherever possible, an environment which supports diversity and variety of individual choice.

5. Achieve a balance between population and resource use which will permit high standards of living and a wide sharing of life's amenities.

6. Enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources.

District management personnel who were actively involved in the planning process were asked to subjectively judge relative compliance of each alternative with the NEPA goals. Full compliance was rated as "10" and non-compliance rated as "1," with the numbers between used to show a gradation of compliance. Table No. 1 in the appendix shows the aggregated results of this analysis. Summary observations are as follows:

- The final EIS Preferred Alternative ("F") ranked first in environmental preferability with an overall rating of 8.1; a relatively high level of compliance.

- The seven most highly rated final EIS alternatives were in a relatively narrow range (6.0 to 8.1) and all were judged to be above average in compliance.

- Of the top five alternatives, all but Alternative "I" have the same basic land use mix.

- While NEPA emphasizes the biological and physical components of the environment, it also deals with the socioeconomic components (Goals No. 5 and 6). This appears to be the reason for downgrading some alternatives with high emphasis on the biological and physical aspects (Alternatives "I" and "J").

- The highest and lowest timber production alternatives ("A" and "J") were downgraded significantly for lack of balance (Goal No. 5).

- The three highest timber production alternatives ("A," "B" and "C") were judged to have the lowest environmental preferability.

Summary Public Input Analysis

The analysis that follows considers all written public comment received for both the draft and final Environmental Impact Statements through June 15, 1981. Comments received after this date were considered in the decision-making process, but are not reflected in this document.

In considering this input, a simple vote-counting process cannot be used. Input ranged from post cards with limited content to documents reflecting in-depth, scientific analysis. However, all were recognized to be valid expressions of public interest and concern. Each piece of written input was logged in and coded for further analysis. Tables 1, 2 and 3 present basic data developed from this analysis. Some observations on these data follow:

- The final statement received considerably more input than the draft statement.
- The majority of the input received on the final statement (90 percent) was in the form of post cards.
- Most of the total input (85 percent) was the direct result of the efforts of a group called the "South Coast Resources Coalition."
- A significant number of inputs (29) provided research information reflecting an in-depth review of the statements.
- Most of the respondents were individuals (92 percent).
- There was a good balance of input from citizen groups, agencies, industry, academic institutions and government.
- The vast majority of the input (93 percent) was from the four counties with lands in the SCCSYU: Lane, Douglas, Coos and Curry.

Table 1 Form of Public Input

Form	Draft	Final	Total
Letter	115	190	305
Petition	1	2	3
Post Card	9	2,004*	2,013
Resolution	--	24*	24
Research	22	7	29
Other	2	--	2
Total	149	2,227	2,374

*Because of the similarity of response, these appear to be generated by a single, organized group.

Table 2 Type of Respondent

Respondent Type	Draft	Final	Total
Individual	56	2,135*	2,191
Citizen Group	22	15	37
Industry	24	19	43
Academic	12	7	19
Federal Agency	14	6	20
State Agency	11	7	18
County Government	4	5	9
Municipal	4	22	26
Other	2	11	13
Total	149	2,327	2,376

*Because of the similarity of response, these appear to be generated by a single, organized group.

Table 3 Source of Public Input

Source	Draft	Percentage Final	Total
Local *	82	93	93
State	11	7	7
Outside State	7	<1	<1
Total	100	100	100

* From the four counties with lands in the SCCSYU.

South Coast Resources Coalition:

Because the efforts of the coalition had such a major impact on the input received, we will analyze its concerns separately.

In late March, 1981, the coalition launched a vigorous campaign to solicit comments on BLM's final EIS. Included in this campaign were the following activities:

- The development of a brochure presenting the coalition's views and post cards for response to BLM.
- The development of resolutions for consideration by school boards and city officials.
- Meetings with union members, timber industry employees and the news media.
- A public meeting to receive comment on the BLM's plans (May 27, 1981).
- A demonstration at the BLM office.

These efforts directly resulted in numerous comments and resolutions being mailed to BLM. In addition, the coalition presented BLM with a transcript of their public hearing and asked that it be entered in the record. Thirty-six people made statements at this meeting. With the exception of some comments that supported the final EIS Preferred Alternative, the others generally reflected the views expressed by the coalition in its brochure. The resolutions and statements made at the public meeting also supported these views, which can be expressed in summary form as follows:

- The preferred alternative in the final EIS is a clear violation of the O&C Act.
- BLM's proposed plan hurts working people, families and our communities.
- BLM's proposed plan designates too much land for non-timber uses: wildlife, visual quality, river zones and watershed.
- BLM's proposed plan gives too little attention to the economic well-being of people.
- BLM's proposed plan will cause a significant reduction in county revenues.
- BLM should reject the proposed alternative and instead adopt and implement an alternative that will increase employment, increase sustained yield timber production and maximize the social and economic welfare of dependent communities in an environmentally sound and prudent manner.

From a review of the input generated by the coalition's efforts, there is no clear consensus of which specific alternative is favored. Comments ranged from maintaining the current harvest level to the adoption of Alternative "A": (Maximum Timber Production). A spokesman for the coalition indicated on a radio interview that the group favored Alternative "B" (Emphasis on Timber Production.)

Issues and Comments: (From other than the coalition.) Inputs that addressed a particular issue were coded by general-issue categories. Specific comments within these categories were tallied by summary comments. The comments received as a direct result of the coalition's efforts were discussed above and are not treated in this section.

Table 4 indicates the interest level in various general issue areas.

Table 4 Comments by Issue Areas

Issue Area	Draft	Final	Total
Economic	79	133	212
Wildlife	128	52	180
Forestry	58	45	103
Legal	37	35	72
EIS Quality	93	19	112
Fish and Water	28	3	31
Soils	15	4	19
Recreation	12	4	16
Visual	11	2	13
Air Quality	4	2	6
Public Interest and Other	41	67	108

Economic concerns were most frequently addressed, especially in inputs to the final EIS. Wildlife, forestry and legal concerns also received considerable attention. There was a significant reduction in the number of comments on the quality of the final EIS compared to the draft EIS.

Listed below are summary comments addressed most frequently. Comments related only to the quality of the EIS are not included in this list. Parenthetical numbers indicate the frequency of comments.

- BLM has given insufficient weight to economic needs. (93)
- BLM has attempted to change the intent of the O&C Act. (34)
- Short term economic benefits will be achieved at the expense of long term gains. (21)
- BLM needs to examine its proposals from an efficiency (cost/benefit) standpoint. (17)

- BLM should stand firm against the South Coast Resources Coalition. (17)
- BLM should increase the annual allowable harvest. (16)
- Taxes will increase if the allowable harvest is reduced. (15)
- Protest the proposed reduction of 16 MM bd. ft. in allowable harvest. (15)
- BLM needs to carefully monitor its plan. (13)
- BLM is not responsible for the current unemployment and economic condition of the area. (11)
- Elk do not need old-growth timber. (11)
- Too much acreage has been set aside for the northern spotted owl. (10)
- Old-growth is the key to survival of some wildlife species. (10)
- There is a need to maintain diversity in the forest. (10)
- There should be coordination between BLM and other land managers. (10)
- BLM has taken too much credit for the effect of intensive timber management practices. (9)
- A reduction in timber production for other resource values is acceptable. (8)
- Concern about the danger and lack of effectiveness of herbicides. (8)
- Protection of visual quality should not override the production of timber. (8)
- There is a need to protect other resource values such as fisheries so that jobs will not be lost. (7)
- There will be a severe impact to soil and water resources. (7)
- To be effective, the ecosystem concept must consider non-BLM lands. (6)
- BLM needs to direct more efforts toward reforestation. (6)
- BLM needs to intensify timber management. (6)
- The preferred alternative is too heavily weighted toward wildlife. (6)
- More northern spotted owls should be protected. (6)
- The preferred alternative is inadequate to protect wildlife. (6)
- The O&C Act calls for economic stability. (6)
- Concern expressed for the impacts of the 5-year plan on water quality and fisheries. (6)
- A decrease in elk habitat will have a negative effect on recreation. (6)
- The allowable harvest level should be directly tied to available funding. (6)

Advisory Council: On Oct. 27, 1981, the Coos Bay District Advisory Council met to discuss the timber management plan. The alternatives contained in the final EIS were reviewed and considered in light of public input, economic and environmental relationships and newly revised BLM policy. At the end of the meeting, the District Manager asked that each member provide a written recommendation. Eight members responded, with some recommending alternatives that yield annual harvests above the current level, and others recommending alternatives that yield annual harvests below the current level.

Policy and Legal Analysis

As the planning process progressed, it became evident that existing policy and legal guidance were inadequate to deal with the range of alternatives being considered. More than 70 respondents to the draft EIS and final EIS addressed this problem. Of particular concern was the relative dominance of timber management in the context of the O&C Act and other pertinent legislation. It was alleged by many respondents that several of the alternatives, including the final EIS preferred alternative, violated the O&C Act by devoting too much attention to uses other than timber production. To deal with this question, the BLM submitted the policy statement for multiple use management on the O&C lands to the Interior Department Solicitor's Office. The Solicitor examined the policy in light of pertinent legislation and issued a legal analysis. In the summary statement of the analysis, the Solicitor pointed out that:

> *"We have concluded that the O&C Act places forest production in the dominant role within the entire scheme of the Bureau's management of the O&C lands. Further, the Act clearly does not mandate exclusive use, but instead requires management for other interests as well as timber supply. Therefore, the Bureau must see that its operations meld the dominant use of forest production with these aspects of multiple use envisioned by the O&C Act in addition to any relevant requirement specified in subsequent legislation."*

The Solicitor concluded by stating that: *"Our review of the draft policy statement for management of the O&C lands indicates that only minor modifications are necessary to bring it into line with this legal analysis,"* and further that, *"we believe that the Bureau has struck this balance in much of its proposed policy."*

Additional evaluation by BLM leadership in Washington, D.C., resulted in guidance to the District in the form of management criteria for application of O&C forest policy. The text of these criteria, along with instructions from BLM Director Robert F. Burford and State Director William G. Leavell for implementing the criteria, can be found in the appendix.

Summary Rationale for Elimination of EIS Alternatives from Further Consideration

EIS Alternative	Summary Rationale
A. Maximum Timber	Magnitude of negative environmental impacts unacceptably high.
B. Emphasis on Timber	No provision for maintenance of scenic qualities or for maintenance of seral stage distribution.
C. Spotted Owl	No provision for maintenance of scenic qualities or for maintenance of seral stage distribution. Contains allocations for wildlife habitat not consistent with Management Criteria
D. Lower Minimum Harvest Size	Contains allocations for wildlife habitat not consistent with Management Criteria.
E. No Action	No provision for seral stage distribution or for federally listed threatened and endangered wildlife species. Not current with state of the art intensive management practices.
F. Final EIS Proposed Action	Contains allocations for wildlife habitat not consistent with Management Criteria. Socioeconomic impacts unacceptably high.
G. No Herbicides	Contains allocations for wildlife habitat not consistent with Management Criteria. Socioeconomic impacts unacceptably high. Eliminates use of a viable intensive management practices.
H. No ACE	Contains allocations for wildlife habitat not consistent with Management Criteria. Socioeconomic impacts unacceptably high. Not consistent with allowable cut policy.
I. Emphasis on Non-Timber	Not consistent with the basic mandate of the O&C Act.
J. Emphasis on Wildlife	Not consistent with the basic mandate of the O&C Act.

The Proposed Decision

Major Features

The proposed decision yields an annual allowable harvest of approximately 266 MM bd. ft. Land use is similar to that described for Alternatives "D," "F," "G" and "H," except that no allowance has been made to provide for the mid-age and old-growth components of habitat diversity for wildlife. The proposed decision does provide for the maintenance of mid-age and old-growth timber in the first decade through the concept of "seral stage distribution."

The following is a summary of the proposed decision arranged by major land-use categories. Detailed operational procedures for logging systems, road construction, etc., are contained in the land-use plan (MFP) and will not be described here. Also, land-use decisions not directly related to timber management, such as the management of coastal lands, will not be considered in this document.

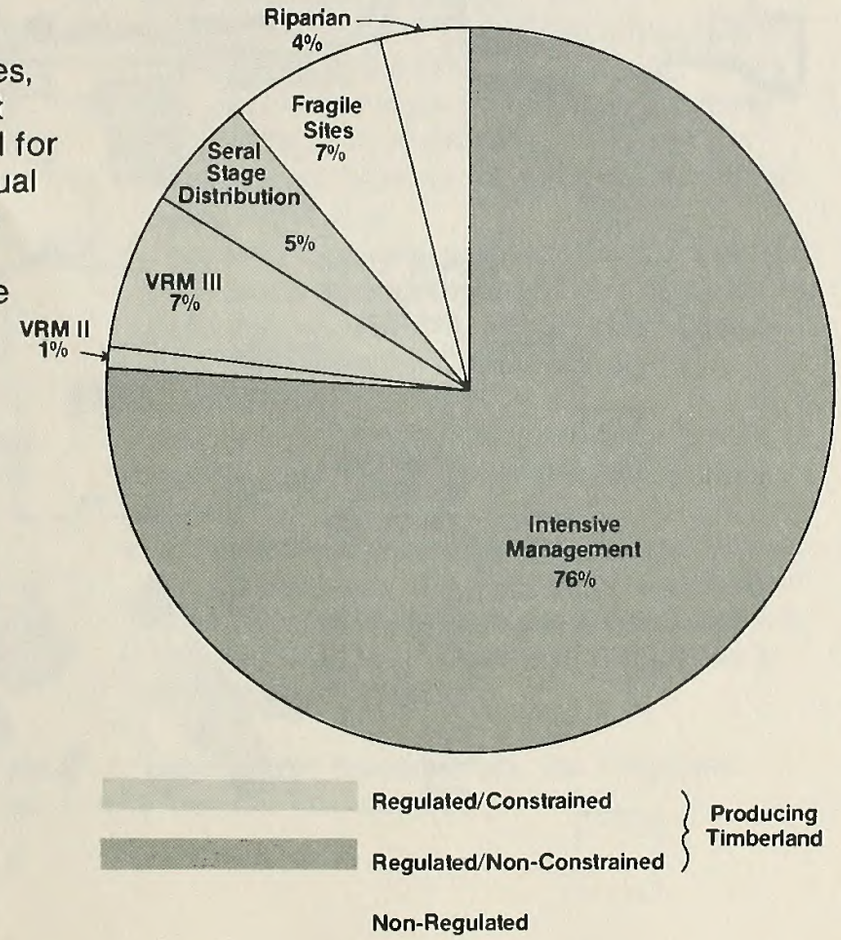
Intensive Timber Management - 231,681 acres, or about 76 percent of the commercial forest land will be managed at a high intensity level for the production of timber. The regulated annual harvest from this portion of the forest will be 247 MM bd. ft. The following are the timber management practices to be applied to these lands:

Practice	Approximate Annual Acreage (First Decade)
Harvest	
clearcut	3,866
partial cut	331
Site Preparation	
broadcast burning	4,800
herbicide	840
brush and hardwood conversion	600
Planting	6,300
(genetic stock)	(740)
Animal Damage Control	880
Plantation Release	4,900
Precommercial Thinning	3,000
Fertilization	4,300

Credit for applying these practices has been taken in determining the harvest level.

An average minimum harvest size of 13 inches dbh (obtained in about 40 years) will be used to convert the forest to a regulated state. The ultimate rotation length will be 80 years. Harvesting in 40-year-old timber will begin in about 30 years and continue for 50 years when a build-up of older age classes begins.

Visual Resource Management, Class II - 4343 acres, or about 1 percent of the commercial forest land, will be managed so that activities such as harvesting and road construction will not be visually evident. Most of this land lies immediately adjacent to major travel routes. The regulated annual harvest from this portion of the forest will be about 2 MM bd. ft. Timber management practices will be limited to those necessary to harvest and reforest approximately 28 acres each year. Clearcut size and shape will be limited to meet the visual objective. A timber harvest rotation of 160 years, resulting in a slower harvest rate, will also be used.



Visual Resource Management, Class III - 22,127 acres or 7 percent of the commercial forest land will be managed so that activities such as harvesting and road construction will appear subordinate to the characteristic landscape. Most of this land is background to major travel routes and recreation areas. The regulated annual harvest from this portion of the forest will be 17 MM bd. ft. With the exception of a slightly reduced harvest rate (80-year minimum harvest age) and some restriction on clearcut size and shape, these lands will be managed similarly to the "Intensive Timber Management" lands. The following practices will be applied to these lands.

Practice	Approximate Annual Acreage (First Decade)
Harvest	
clearcut	264
partial cut	34
Site Preparation	
broadcast burning	330
herbicide	60
brush and hardwood conversion	120
Planting	500
(genetic stock)	(60)
Animal Damage Control	70
Plantation Release	200
Precommercial Thinning	200
Fertilization	300

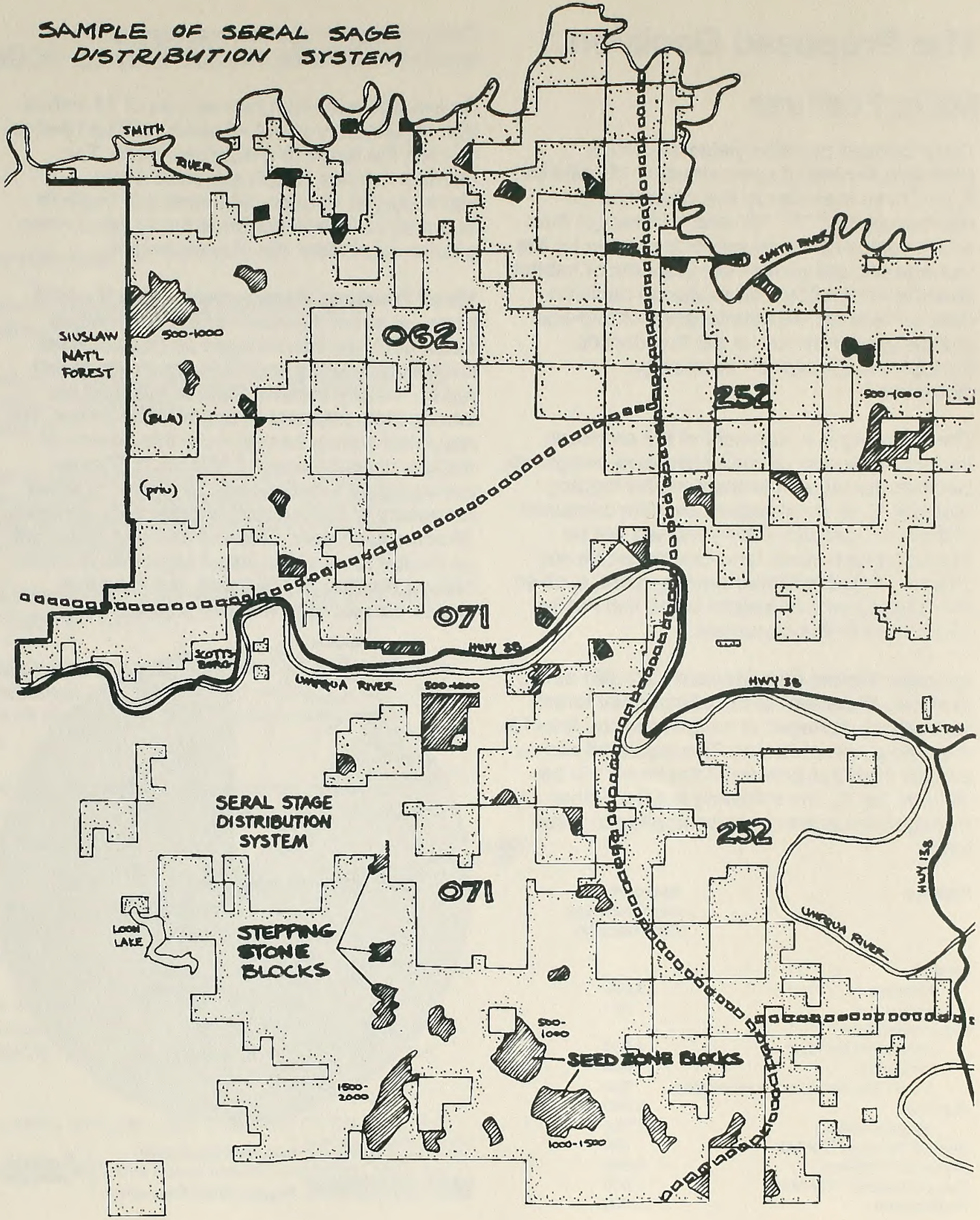
Seral Stage Distribution - 14,959 acres or 5 percent of the commercial forest land will be withdrawn from the timber management base to maintain a minimal level of the mid-age and old-growth seral stages for this decade. The mid-age and old-growth stands remaining today are the result of complex interactions between plants and animals over time. Evidence points towards the simultaneous evolution of these plants and animals. Yet, the exact functioning and purpose of many of these interactions have not yet been studied in depth.

For example, the mechanisms for nitrogen fixation have only been identified within the past decade. Additionally, there are indications that mycorrhizal innoculation by rodents may be critical to plantation establishment and survival in some instances. There are many

unknowns pertaining to which portions of this interacting web, if any, must be replicated by management if long-term timber production is to be maintained at high levels. What is known for sure, however, is that the timber management program will liquidate the remaining old-growth stands in a relatively short time if left unconstrained.

Seral stage distribution and its potential importance to long-term timber production were not specifically dealt with in the final EIS because provision for the maintenance of an adequate number of representative stands was inherent within the Wildlife Habitat Diversity proposal as contained in final EIS Alternatives "D", "F", "G", "H", "I" and "J." Under the Management Criteria, however, the provision of wildlife habitat diversity by land use allocation from the timber base is no longer a valid consideration. The provision for maintaining minimal amounts of the older stages until more is learned of their relation to long-term timber production is recognized as valid and necessary. The State Director's instructions for implementing this system can be found in the Appendix.

The proposed seral stage distribution system is composed of 22 large blocks (average size 476 acres) connected by 104 small blocks (average size 88 acres). A full listing of seed zone/elevation units covered by this system is in the Appendix. The total system is made up of 19,611 acres of which 4,652 are in areas already withdrawn for other purposes: fragile site, riparian protection, etc. The large blocks are located to provide representation of existing seed zones by 500-foot elevational bands. The seed zones are accepted as generally encompassing a geographic area within which the factors affecting reforestation and subsequent growth are relatively homogenous. They also form the best currently available geographic orientation for a system of old-growth reservations. A size of 300 to 500 acres is generally recognized as being adequate to maintain most old-growth interior species if attention is given to configuration, probable wind firmness, etc. While a 50-50 mix of mid-



age and old-growth is preferred, in many cases this may not be possible, in which instance preference is given to maintaining the old-growth seral stage.

The small blocks are arranged approximately 1 to 1.5 miles apart connecting the large blocks in chainlike fashion. The small blocks are intended to prevent genetic isolation of the localized birds and animals that may prove to be critical to long-term timber production in a particular area. A size of 50 to 100 acres and the 1 to 1.5 mile distribution are judgments as to what would comprise an interim measure that would probably be effective.

Where possible, the District identified a supplemental large block for each seed zone/elevational band. Old-growth availability is rapidly approaching critical status and this duplication is seen as a safeguard to prevent leaving a zone without representation should a single block be destroyed by fire, windthrow, etc.

Fragile Sites (TPCC) - 22,140 acres or 7 percent of the commercial forest land were judged incapable of supporting sustained yield timber management under current technology. These lands have been removed from regulated harvest.

This does not mean that they will never undergo harvest; rather that there will be no planned, regular harvest. Should technology improve to assure regular harvest and regeneration without significant site loss, these lands, or portions thereof, could be returned to the regulated base. Also, if severe natural damage should occur, such as a windstorm, and site loss will not be severely aggravated by harvest, the timber will be salvaged. Any harvest that occurs on this land will be above the regulated harvest level of 266 MM bd. ft.

Riparian Areas - 10,800 acres or 4 percent of the commercial forest land will be managed for the protection of wetlands along major streams. These lands have also been removed from regulated harvest. As in the case of "Fragile Areas," harvest may occur on these lands, but it will be aimed at maintaining or enhancing non-timber values. Experience on the Coos Bay District has demonstrated that the full range of values cannot be protected when regular harvest of commercial timber is carried out in riparian areas.

Analysis

In arriving at this decision, four criteria were used to evaluate each alternative: economics, environment, public opinion, and law and policy. The analysis will be presented by these criteria.

Among the major economic factors influencing the proposed decision were:

- The significance of timber products to the state and local economy.
- The significance of BLM's timber supply to the local economy.
- The depressed state of the local economy and the need to maintain or enhance the employment base as the national economic output improves.
- The need to increase timber production from BLM lands during the next three decades as described in "Forestry Program for Oregon" and "1980 Oregon Timber Supply Assessment."
- The need to maintain and enhance BLM's contribution to the national timber supply situation.
- The importance of protecting future options for maintenance of a seral stage distribution assuring continued high timber productivity.
- The importance of tourism and fisheries in the local economy.

In response to these factors, the Proposed Decision:

- Increases the allowable harvest 32 MM bd. ft. annually over the current level.
- Provides support for an increase of 496 jobs in the local economy.
- Provides support for an annual increase of $6.8 million in personal income.
- Provides an annual increase of approximately $8.9 million on timber sale receipts.
- Provides a high level of timber output, exceeding objectives established by the Oregon State Board of Forestry during the critical three-decade period, while also providing for major non-timber economic values of the forest: fishing and tourism.
- Uses a minimum harvest size (13 inches dbh) to convert the intensively managed lands to a regulated state that is biased toward near-term production. The trade-off is slightly (3 percent) less total production during the next two centuries and a six-decade delay in reaching regulation.
- Provides future options for the protection of long-term timber production through the seral stage distribution system. The opportunity cost of maintaining this is 18 MM bd. ft. per year. Using the previously discussed range of timber prices ($128/M bd. ft. to $279/M bd. ft.) the cost would fall between $2.3 million and $5 million per year.

Among the major environmental factors influencing the proposed decision were:

- The importance of complying with goals established by the National Environmental Policy Act.
- The strong public input related to the social and economic importance (NEPA Goal #5) of maintaining or increasing the current allowable harvest level.
- The desirability of remaining consistent with major land-use objectives contained in the proposed land-use plan (MFP).

In response to these factors, the Proposed Decision:

- Meets all major land-use objectives developed through the land-use planning process (MFP), with the exception of habitat diversity for wildlife and the total protection of state-listed threatened and endangered species.
- Rates strong in relation to NEPA goal #5, which says that the emphasis on timber production should serve to "permit high standards of living and a wide sharing of life's amenities."
- Maintains remnant populations of wildlife species thought to be important to long-term timber production through the first decade. Should research prove them valuable, the potential will be available to maintain these species with intensive management efforts.
- Retains, through the seral stage distribution concept, a reasonable distribution of functioning old-growth ecosystems for the decade. Meanwhile, research is undertaken to determine which portions of the interacting web of plants and animals, if any are critical to long-term timber production.
- May accelerate the decline of Roosevelt elk forecast for the final EIS preferred alternative. The end result is expected to be the same, that is, eventual population levels that are 20 to 30 percent of current levels.
- May reduce northern spotted owl habitat from that currently supporting 25 pairs to a level that would support an estimated six to eight pairs by the end of the first decade with long-range protection provided to habitat for three to four pairs. Not providing habitat for the recommended allocation of 16 pairs would necessitate additional land-use allocations for owls on other federal- or state-managed lands if viable populations as identified by the Oregon Endangered Species task force are to be maintained.
- Reduces habitat and threatens the maintenance of viable populations of the pine marten and fisher.
- Reduces the population of woodpeckers from the 50-60 percent of optimum found on the final EIS preferred alternative to about 35-40 percent of optimum on BLM lands. The 40 percent level is generally accepted as the minimum level to maintain viable populations. Areas in the immediate vicinity of the seral stage distribution corridors should have high populations that could be expanded to the remainder of the District through intensive management.
- Precludes the adoption of a system of habitat diversity for wildlife by the end of the first decade.
- Rates at 5.6 in the context of the subjective environmental rating system established in Table No. 1 in the Appendix. Environmentally, this would rank the proposed decision between seventh and eighth in relation to the 10 final EIS alternatives.
- Maintains the trend toward improvement in cold water fish habitat.
- Would have no adverse effects on any species federally listed as threatened or endangered.

Among the primary public opinion factors influencing the proposed decision were:

- The strong expression of public concern for maintaining or increasing the current allowable harvest level.
- Local elected officials strongly opposed a lowering of the allowable harvest level.
- Divergent opinions were expressed from within BLM's advisory council and various state agencies, as well as among other prominent groups. The land-use concepts of habitat diversity, riparian protection, visual resource protection and water quality maintenance were supported by groups representing a broad spectrum of interests.

In response to public opinion, the Proposed Decision recognizes the overwhelming public concern for maintaining or increasing the allowable harvest level. Maintaining viable populations of indigenous wildlife species was recognized as a worthwhile goal by many diverse groups. However, the opportunity costs associated with the habitat diversity concept were thought to be excessive given identified social and economic needs for high levels of timber production.

Current BLM policy, as augmented by the Management Criteria, provides authority for recognizing the following non-timber land-use concepts within the timber management plan:

- Water quality.
- Wetlands (including riparian zones).
- Threatened or endangered species on the federal list.
- Recreational areas (including visual resources).
- Seral stage distribution, when designed specifically to safeguard long-term timber productivity.
- The maximization of timber production consistent with the above-listed authorized uses.

As shaped by current BLM policy, the Proposed Decision:

- Best meets all policies, authorized objectives and criteria for the management of the O&C lands.
- Retains, through the seral stage distribution concept, a reasonable distribution of functioning old-growth ecosystems.

Given the foregoing analysis, the proposed decision represents the best environmental balance that can be achieved within the context of law, policy and guiding criteria. The opportunity cost of achieving a significantly higher level of environmental preferability is determined to be excessive in light of identified social and economic needs.

Cost of Implementation

Table 5 lists the approximate average annual cost of the proposed decision by major program area for the first decade. Only timber management and closely related programs are shown. Those such as minerals management, non-timber realty and recreation maintenance are not listed.

The average annual cost to implement the proposed decision is approximately $9.2 million. This compares with $34 million to $74 million in annual receipts expected to be generated by this program depending on whether market conditions keep prices at present depressed levels or return to more normal levels.

The second column in Table 5 shows the funding of these programs for Fiscal Year 1982. Should funding remain at this level, the proposed decision would be affected in the following ways:

Table 5 Funding Level Comparison ($x1000)

Major Program Area	Proposed Decision	FY 1982	Total Shortage
Transportation Systems [1]	1,894.7	1,869.7	25.0
Timber Management [2] (including land survey)	6,268.5	5,543.4	725.1
Fire Management [2]	800.0	306.8	493.2
Fisheries & Wildlife	135.0	130.3	4.7
Soil, Air, Water	73.9	73.9	0
Total	9,172.1	7,924.1	1,248.0
Allowable Harvest Levels (MM bd. ft.)	266.0	249.0	17.0

[1] Includes access acquisition and maintenance; does not include funding for major construction projects or aggregate production. These funds are held in the state office. Estimated annual need is an additional $1.3 million.

[2] Program areas directly related to reforestation and growth.

Transportation Systems - The $25,000 deficit is primarily related to access acquisition for timber sales. Without these funds, the orderly preparation and proper distribution of sales would be seriously hampered. The problem would become more acute in the later part of this decade.

Timber/Fire Management - These programs are directly related to the growth projections made in determining the allowable harvest level of 266 MM bd. ft. If the $1.2 million deficit should continue, intensive management programs would be affected, starting with those that show the lowest dollar return. In particular, this deficit would eliminate all fertilization and stand conversion, and approximately 45 percent of the precommercial thinning program. The estimated allowable cut effect of this deficit would be about 17 MM bd. ft. or about $4.7 million in annual receipts.

Monitoring the Proposed Decision

Table 6 presents the monitoring activity expected to be associated with the proposed decision. This plan has been designed to help insure compliance with the goals and mitigation other instances, special systems have been developed to measure the biological and physical impacts of plan implementation. For example, the "Growth Response from Fertilization and Thinning" is designed to measure actual response in relation to the projected response used in the allowable harvest computation.

measures developed through the land-use and timber management planning processes. Information gained from this monitoring will also be used to develop an improved basis from which to build future plans. Much of the monitoring will be accomplished through normal operating procedures, such as contract administration. This type of monitoring would go on regardless of the alternative chosen. In

Table 6 District Monitoring Plan

Monitoring Element Timber Management	Method	Frequency [1]	Characteristics Evaluated [1]
Periodic Forest Inventory	Permanent Plot Measurements	Decadal	Ht. growth; Dia. growth; stand age; vol. growth/tree; vol. growth/acre
Growth Response from Fertilization and Thinning	Permanent Plot Measurements	5-10 yr. intervals	Ht. growth; dia. growth; stand age; vol. growth/tree; vol. growth/acre
Tree Planting	Contract Administration	Daily during planting season Oct.-April	No. trees/acre; distribution of trees; root forms
Cone Collection	Contract Administration	Daily from Aug.24-Oct. 1	Stand and/or tree selection; location designation; volume obtained; seed count
Chemical Site Preparation	Contract Administration	Daily during project	Chemical mix; spray distribution; stream monitoring; unit signing; collecting application data
Release Spray	Contract Administration	Daily during project	Chemical mix; spray distribution; stream monitoring; unit signing; collecting application data
Release Spray Evaluation	Vegetative Survey	Annually, and/or 5, 10 & 15 years	Quantify effect of treatment on competition and desired trees; treatment effectiveness
Pre-commercial Thinning	Contract Administration	Daily during project	Spacing; tree selection; work quality
Fertilization	Contract Administration	Daily during project	Distribution of fertilizer; application monitoring
Seedling Tubing	Contract Administration	Daily during project	Number & distribution of tubes; tube and tree positioning
Mountain Beaver Trapping	Contract Administration	Weekly during project	Number trapped; unit information
Hand Slashing	Contract Administration	Daily during project	Diameter & height limits
Stand Conversion	Contract Administration	Daily during project	Diameter & height limits
Reforestation Surveys	Stocking Surveys	Annually and/or 5, 10 & 15 years	No. of trees/acre; tree distribution; vegetation competition, survival by seedling type; height growth
Tree Improvements/Progeny Test Sites	Test Plot Measurements	Annually, and/or 5, 10 & 15 years	Height growth; comparative height growth per parent
Tree Improvement/Field Plots	Test Plot Measurements	Annually, and/or 5, 10 & 15 years	Height growth; comparative height growth per parent
Timber Sales	Contract Administration	Weekly on each contract	Timber cutting & payments; logging system requirements; road construction, use & maintenance; environmental compliance

Air Management			
Air Quality	Ocular Observations	Bi-weekly	Degrees of clarity
Watershed Management			
Water Quality	Monitoring of Non-point Source Pollution & Analysis of Water Samples; Contract Administration	Monthly and/or after major storms	Stream flow profiles; temperature profiles; dissolved oxygen levels; acidity; stream load
Wildlife Management			
Stream Habitat	Stream Survey	Periodically-every major stream once during 10-yr. period	Channel structure; riparian structure; bedload composition & configuration; fish and aquatic insect populations
Big Game Habitat and Population	Habitat Inventory & Spotlight Counts	Annually	Response to habitat manipulation
Bald Eagle Habitat and Population	Habitat Inventory & Population Surveys	Bi-annually	Reproductive success; response to timber management practices
Spotted Owl Habitat and Population	Habitat Inventory & Population Surveys	Bi-annually	Reproductive success; response to timber management practices
Snag Management	Selective Sampling of Harvest Units	Annually	Quantity & quality of trees left for wildlife
Recreation - Visual & Cultural			
Recreation Utilization	Random Sampling of District-wide Recreation Use	Periodically-two or three times during the decade	Number of visitors; areas of intensive utilization
Visual Resource Layout Compliance	Comparison of Harvested Units with Visual Simulations	Annually	Effectiveness of visual mitigation measures; compliance with EA stipulations
Cultural Site Protection	Examination of Selected Sites Before and After Timber Harvest/Road Construction	Annually	Site integrity
T & E Plants			
Rare & Endangered Plant Habitat and Population	Habitat Inventory & Population Surveys in Selected Areas	Annually	Compliancewith protective measures; population response to habitat manipulation
Overall Environment			
Environmental Assessment Compliance	Inspection of Selected Projects	Periodically through-out the year	Quality of environment after project, i.e., harvest, road construction, herbicide spray, etc.

[1] Frequency and characteristics evaluated may vary depending upon the severity of the environmental impact, specific contract requirements, and administrative priorities.

Consistency with State and County Planning

This section addresses the relationship of the proposed decision with various state and county plans. Municipal plans will not be addressed since no significant interaction is anticipated. State and county plans are broad in nature, allowing for a considerable degree of interpretation when judging consistency.

Forestry Program for Oregon FPFO (Oregon State Board of Forestry)

Basic Objective: To maintain the maximum potential commercial forest land base consistent with other resource uses while assuring environmental quality.

Consistency: The decision retains the maximum potential for commercial forest lands. No commercial forest land has been designated for an irreversible change of use such as commercial or industrial. BLM considers the mix of uses defined in the proposed decision to be consistent with the "other resource uses" and "environmental quality" portions of the goal. Congressional Acts, Executive Orders and "Oregon Best Management Practices under the Clean Water Act" mandate guidelines for certain lands. Throughout the planning process, these guidelines have served to help define the land use mix.

Basic Objective: To identify and implement the levels of intensive forest management required to achieve maximum growth and harvest.

Consistency: A full range of intensive timber management practices will be implemented on approximately 83 percent of commercial forest land for the optimization of timber production.

Basic Objective: To rehabilitate commercial forest land that presently is not stocked with a commercial timber species.

Consistency: Conversion of hardwood stands and brushfields will be implemented.

Basic Objective: To maintain community stability by remaining flexible for increases in future harvest levels that would offset projected shortages.

Consistency: The office of the State Forester in a letter dated November 7, 1980, recommended a harvest for the South Coast Sustained Yield Unit (SCSYU) which would: ". . . best meet state goals through: maintenance of the CFL base; high productivity; assuring environmental quality; and flexibility to increase harvests to fulfill local, state and national timber supply objectives." The annual harvest level recommended by the State is 40 MMCF (million cubic feet) for the period 1980 to 1990, after which the harvest level would increase to approximately 42 MMCF. The decision provides for an annual harvest of approximately 42 MMCF for the entire planning period used by the state. An inconsistency exists between the decision and the FPFO objective to maintain flexibility for future increases in the annual harvest. BLM policy does not provide for deviation from even-flow unless a surplus of harvest-age timber exists beyond that necessary to maintain an even-flow level. Annual harvest projections do not indicate the availability of any surplus in the period 1980-2070.

LCDC Statewide Goals

Only those LCDC goals which have a direct relationship with the proposed decision are considered in the following rationale. LCDC goals that are not considered generally applicable include: 3. Agricultural lands; 10. Housing; 11. Public facilities and services; 12. Transportation; 14. Urbanization; 15. Willamette Greenway; 17. Coastal shorelands; 18. Beaches and dunes.

Goal 1: To insure citizen involvement in all phases of the planning process.

Consistency: The BLM planning process provides for public input at every stage, from the initial inventory to critique of the final decision.

Goal 2: To establish a land-use process and policy framework as a basis for all decisions and actions.

Consistency: The O&C Act and the Federal Land Policy and Management Act (FLPMA) of 1976, provide a policy framework for all decisions and actions. The decision has been developed in accord with these Acts.

Goal 4: To conserve forest lands for forest uses.

Consistency: The decision provides for retention of forest lands for forest uses. The productive capacity of the land is not exceeded, and all other uses are compatible with forest uses in this goal.

Goal 5: To conserve open space and protect natural and scenic resources.

Consistency: The proposed decision conserves open space, as no developments (housing, urbanization, etc.) are included. Protection is provided for fish, scenic resources and watershed values.

Goal 6: To maintain and improve the quality of the air, water and land resources.

Consistency: The proposed decision provides for the enhancement of land resources and the attainment of minimum federal and state water quality standards. Slash burning under the proposed decision will increase the level of air pollutants. However, all burning will be done in concert with the State Smoke Management Plan.

Goal 7: To protect life and property from natural disasters and hazards.

Consistency: BLM projects are designed to minimize hazards from flooding, landslides and debris slides.

Goal 8: To satisfy the recreational needs of the citizens of the state and visitors.

Consistency: The proposed decision provides for retention of existing recreation areas and modest expansion. It also provides for the enhancement of visual and scenic attractions, and the maintenance of a moderate level of fish habitat to help meet expected recreational demands.

Goal 9: To diversify and improve the economy of the state.

Consistency: The proposed decision provides for increased timber production with the potential for positive effects on the economy. In addition, it will provide a base for the recreational and commercial fishing industries by maintaining visual and recreational attractions, and increasing habitat for anadromous fish.

Goal 13: To conserve energy.

Consistency: The conservation and efficient use of energy sources are objectives in BLM activities. The use of logging residue for firewood will be encouraged.

Goal 16: To recognize and protect estuarine resources.

Consistency: The decision recognizes and protects estuarine resources by striving to reduce sediment production in operations.

Goal 19: To conserve the long-term values, benefits and natural resources of the near shore ocean and continental shelf.

Consistency: The proposed decision affords protection and enhancement for anadromous fisheries.

County Comprehensive Plans: Coos, Curry and Douglas Counties

Goals and objectives in the three county areas are primarily based on FPFO and LCDC goals and objectives and, therefore, are very similar. For this reason, the following basic objectives are considered to apply collectively to the three counties.

Basic Objective: Maintain commercial forest lands for the production of wood fiber and other uses.

Consistency: The commercial forest land base will be maintained at the level identified in the FPFO objective, although acreages will vary from county to county. The degree of other uses is not defined and could vary considerably among counties.

Basic Objective: Obtain maximum productivity from all commercial forest lands through forest management techniques.

Consistency: Full intensive forest management will be practiced on approximately 76 percent of the commercial forest land base.

Basic Objective: Protection of water quality, fish and wildlife habitat, scenic and recreational values.

Consistency: The decision provides for the protection of fish habitat, scenic values and recreational facilities. This could be inconsistent with the plans, given the limited protection provided to terrestrial wildlife habitat.

Basic Objective: To provide for the diversification of industry (economic diversification).

Consistency: The proposed decision will provide some indirect encouragement for economic diversification. Commercial and recreational fisheries will benefit from the protection and enhancement of anadromous fish habitat. The tourist industry may benefit as a result of the protection of visual and recreational resources, however those recreational activities involving elk may decline.

Basic Objective: Expansion of existing industries.

Consistency: The decision could contribute to short-term expansion of existing industries, primarily the wood-products industry. Increasing the annual harvest above that of the preceding 10 years could contribute to short-term expansion. On the other hand, if the BLM annual harvest remains more-or-less static throughout coming decades, the contribution to long-term expansion of the wood-products industry would be negligible.

APPENDIX

IN REPLY REFER TO:

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
WASHINGTON, D.C. 20240

5400 (230)

JUL 21 1982

Memorandum

To: State Director, Oregon

From: Director

Subject: Criteria for Application of O&C Forest Policy

The Assistant Secretary, Land and Water Resources has approved the enclosed criteria for applying the O&C forest policy in completing land use plans while developing allowable cut declaration. You should immediately proceed to utilize these criteria in preparing and issuing the South Coast-Curry and Westside Salem draft records of decisions and the EIS documents in other districts.

The criteria are intended to provide a general base of guidance of sufficient flexibility to allow for the broad range of economic, technical, and biological factors which may exist between sustained yield units. Further, the criteria recognize the current state-of-the-art and knowledge, in the various forest management techniques, standards and principles. It is important to consider future options. Minimal amounts of various seral stages should be maintained for long-term forest productivity while being evaluated, especially mid-age and old-growth components. We expect the research and study efforts to be emphasized to the degree necessary to assure that the present uncertainties concerning seral stage retention are resolved in this decade, and the information is reflected in the next decadal plan.

You will note that as required by law and policy, federally listed threatened and endangered wildlife species will receive habitat protection through land use allocations where necessary. In regards to other species (such as State-listed threatened and endangered species), we have discussed with the Department, the cooperative Sikes Act Agreement you now hold with the Oregon Wildlife Commission (1975) specifically as it relates to such State-listed species on O&C lands, and the Interagency Spotted Owl Management Plan of 1978 (SOMP). Your agreement to adhere to the SOMP was an interim measure to be used until timber management decisions were reached through the planning process. With regard to the Cooperative Sikes Act Agreement, this is an agreement to cooperate and is dependent upon policy and planning decisions. The time has now come to clearly state our position on these agreements. State-listed species will be considered, but habitat through land use allocations in these instances on O&C lands will be provided only to the

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State Director's Office

JUL 21 1982

extent it comes from noncommercial timber lands, or whenever a land use allocation under the enclosed criteria coincidently can provide a secondary benefit for these species. The implementation should be discussed with such groups as the Oregon Department of Fish and Wildlife, the Oregon Wildlife Commission, and the Oregon Department of Forestry in order that they are informed, and to help reach an understanding with these parties on these matters.

Robert J. Burford

1 Enclosure
Encl. 1 - Management Criteria

Management Criteria to be Used in Developing Decision Records
with Respect to Forest Lands in Western Oregon

1. The primary emphasis is to provide an optimum and nondeclining yield of wood products so as to enhance the economic stability of local communities and industries while providing for other forest values as required by law. A uniform flow of timber sale offerings is to be maintained. Optimum production is defined as approaching, meeting, or exceeding the State Forestry Plan for Oregon goals.

2. Limit or exclude timber harvest on suitable land for the protection of high public recreational value at sites comparable to those at Loon Lake, Shotgun Creek, Fisherman Bend and Hyatt Lake.

3. Protect and maintain scenic quality in areas of important visual value. Constrained management (e.g., extended rotations) may be applied to protect scenic values in Visual Resource Management Classes I, II, and III when such protection cannot be fully met by mitigating measures such as partial cutting methods.

4. Maintain water quality at Federal and State standards by incorporating mitigating measures in forest management.

5. Management of other nontimber forest values required by law will be provided to the extent possible by allocation of noncommercial or nonsuitable forest land. If nontimber management needs are not met by this initial allocation, mitigating measures may be applied to the timber management program. Only if the first two steps are not adequate will management constraints, such as extended rotations, be applied to timber production. Finally, as the last resort, consideration may be given to withdraw lands from the allowable cut base. Allocation of such lands, however, shall only be accomplished after a thorough analysis of the social and economic impacts of the reduced or excluded production on the local communities and industries. Management measures for other nontimber forest resources include:

   a. Protection of wetlands, including riparian zones.

   b. Maintenance of specifically identified habitat for species on the Federal Threatened and Endangered List and species being formally considered for protective listing by the U.S. Fish and Wildlife Service as provided for in existing law.

6. Additional commercial forest lands suitable for intensive timber production shall not be allocated for withdrawal from the allowable cut base or for constrained timber production (e.g., extended rotations) unless such action is found necessary to protect future options for maintenance of a seral stage distribution assuring continued high timber productivity. In such cases, the minimum incremental allocation will be made for the allowable cut (10 year) planning period that is needed beyond the protection afforded by the allocations made under ~~4~~ 5, ~~4a~~ 6, ~~4b~~ 7, above. This allocation will be reviewed in depth no later than 10 years after

implementation and will be reviewed anytime sooner as conditions change or as new information becomes available. During this period, seral stage management provides diversity of habitat as a benefit from good timber management.

7. Commercial forest lands that are capable of sustained timber production (suitable lands) shall be managed for timber and wood products to the extent provided by law. Allowable cut declaration levels will be based on the use of intensive management practices considered to be operational within a 20-year planning horizon and considered to be economically viable (i.e., B/C ratio $\geq$ 1.0 at current published OMB interest values). The use of intensive management practices will be maximized to the extent feasible.

IN REPLY REFER TO
5400 (931.4)

United States Department of the Interior

BUREAU OF LAND MANAGEMENT

OREGON STATE OFFICE
P.O. Box 2965 (825 NE Multnomah Street)
Portland, Oregon 97208

July 28, 1982

Instruction Memo No. OR-82- 601
Expires 09/30/83

To: District Managers, Western Oregon

From: State Director

Subject: Transmittal of Criteria for O&C Forest Management

Enclosed are the management criteria for making our timber management plan decisions together with supplementary instructions contained in the Director's transmittal letter.

As you are aware, these criteria are the result of an intensive review of policy and management direction relating to the O&C forest management program. So that we have a common understanding of the new criteria and how and why they were developed, I would like to briefly trace their evolution before discussing the criteria in detail.

All of the major issues facing us in western Oregon are represented in Coos Bay's situation (South Coast Curry Sustained Yield Unit land use allocations and allowable cut determination). Thus, we expected early on, and the public was so informed, that the decision made in Coos Bay would be the embodiment of current legal interpretation and policy direction.

The Coos Bay District Manager and his staff did an excellent job of analyzing the technical, social, and economic data generated by their planning process and ES preparation. They integrated these data with their perception of then current policy and managerial direction and prepared a recommended decision.

In his recommendation, the Coos Bay District Manager proposed to back off from his maximum potential even-flow harvest level to allow for management or maintenance of various non-timber forest values. These values were:

- existing or potential intensive recreation developments.
- visual resource values.
- maintenance of water quality to state and federal standards.
- protection of wetlands, including riparian zones.
- maintenance of habitat for wildlife species on the federal threatened or endangered list.

- maintenance of viable populations of all indigenous wildlife species, including the northern spotted owl, listed by the State of Oregon as threatened or endangered, through the preservation of habitat diversity primarily by maintaining specified amounts of the mid-age and old-growth seral stages for that specific purpose.

The well-documented and rationalized Coos Bay proposal was an excellent articulation of where our perception of then-current policy and management direction would lead. I, the Coos Bay District Manager, and selected staff members presented this proposal to the Washington Office directorate on January 25 and 26, 1982.

Included in our presentation in Washington was a display of the opportunity costs, in terms of timber production foregone, associated with the various non-timber considerations. Because of their potential magnitude, and because of the concern for the long-term economic recovery of the Coos Bay area and the regional timber industry, we were instructed on March 11, 1982, by the Assistant Secretary, Land and Water Resources, to delay publication of the draft decision in Coos Bay pending a review and evaluation of key issues relating to policy and the O&C forest management program. This review and evaluation have been completed, and the enclosed management criteria are the result.

Essentially, the criteria set up a four-stage hierarchy by which authorized non-timber forest values can be recognized and provided for. This hierarchy is as follows:

1: Authorized non-timber forest values shall be provided for by utilizing non-commercial forest land or commercial forest land withdrawn by the Timber Productivity Capability Classification (TPCC).

2. Where non-timber management needs are not met by the initial allocation, mitigating measures may be applied to the timber management program. Such measures include, but are not limited to design standards, logging methods, etc.

3. If steps 1 and 2 are not adequate, management constraint, such as extended rotations may be used.

4. As a last resort, where non-timber values are not adequately protected by No. 1, 2 and 3 above, consideration may be given to withdraw lands from the timber production base if an analysis of the social and economic impacts of the reduction in timber harvests caused by such withdrawal can be justified.

Authorized non-timber forest values for which this hierarchy of measures may be applied are:
- existing or potential intensive recreation sites.
- scenic quality in areas having important visual resource values.
- water quality.

- wetlands, including riparian zones.
- habitat for wildlife on the federal threatened or endangered list.
- seral stage diversity to protect long-term timber productivity.

As can be seen, the new management criteria legitimizes all of Coos Bay's land use allocations with the exception of wildlife habitat diversity and spotted owl habitat preservation. Additionally however, the concept of maintaining seral stage diversity in order to protect long term timber production is introduced.

The driving force for this change is concern for the economic recovery of the timber industry and dependent communities in western Oregon. The best description of the production levels needed from the major forest landowners in order to minimize projected supply shortages in western Oregon is the Forestry Program for Oregon (FPFO), published by the Oregon State Board of Forestry. This change in management direction will allow us to approach FPFO goals as closely as possible while remaining in an evenflow mode and concurrently managing for legally authorized non-timber values.

Background for Seral Stage Diversity Concept

The mid-age and old-growth stands remaining today are the result of complex interactions between plants and animals over time. Evidence points towards the simultaneous evolution of these plants and animals. Yet, the exact functioning and purpose of many of these interactions have not yet been studied in depth. For example, the mechanisms for nitrogen fixation have only been identified within the past decade. Additionally, there are indications that mycorrhizal innoculation by rodents may be critical to plantation establishment and survival in some instances. There are many unknowns pertaining to which portions of this interacting web, if any, must be replicated by management if long-term timber production is to be maintained at high levels. What is known for sure, however, is that the timber management program will liquidate the remaining old-growth stands in a relatively short time if left unconstrained.

Implementation of the Seral Stage Diversity Concept

I hereby direct that the seral stage diversity concept be implemented in western Oregon as follows:

1. Each district is to identify one large block of mid-age and/or old-growth timber, preferrably on a 50%-50% basis, 300 to 500 acres in size, in each seed zone within each 500' elevational band.

Rationale: The seed zones are accepted as generally encompassing a geographic area within which the factors affecting reforestation and subsequent growth are relatively homogenous. They also form the best currently available geographic orientation for a system of old growth reservations. The 300 to 500 acre size is generally recognized as being adequate to maintain old growth interior species if attention is given to

configuration, probable wind firmness, etc. While a 50-50 mix of mid-age and old growth is preferred, in many cases this may not be possible in which case preference should be given to maintaining the old growth seral stage.

2. Each district is to identify, where possible, connecting corridors between large blocks consisting of 50-100 acre small blocks spaced at 1 to 1-1/2 mile intervals containing mid-age and/or old growth on a 50-50 basis. Where a linkage via corridor is not feasible because of the isolation of a particular large block, consideration should be given to providing such isolated large blocks with a distribution of surrounding satellite small blocks.

Rationale: The small blocks are intended to prevent genetic isolation of the smaller birds and animals that may prove to be critical to long term timber production in a particular area. The 50 to 100 acre size and the 1 to 1-1/2 mile distribution are judgments as to what would comprise a probably effective interim measure.

3. The Salem, Eugene and Coos Bay Districts, in addition to No. 1 and No. 2 above, are to identify an additional large block and attendant small blocks for each seed zone and elevational band.

Rationale: The three districts mentioned are rapidly approaching critical status in terms of old growth availability. The location of duplicate large blocks is a safeguard to prevent leaving a particular seed zone/elevation without representation should a single large block be destroyed by fire, windthrow, etc.

Roseburg and Medford still have adequate old growth available so that the specific identification of substitute tracts is not deemed necessary at this time.

4. In the identification of the large and small blocks, maximum use will be made of TPCC take-outs and MFP withdrawals for other authorized purposes. Only when a suitable distribution of large and small blocks cannot be fashioned from these sources will additional lands be withdrawn from the allowable cut base for this decade.

Rationale: The seral stage diversity concept can be structured in this way so as to minimize the impact on the current allowable cut level. Withdrawal, rather than management with extended rotations, is deemed appropriate at this time because the seral stages protected are minimal levels which may or may not be proven critical by research during the upcoming decade. Managing by extended rotation now would necessarily envision earmarked replacement acreages and would introduce complexities not warranted by the present state-of-the-art.

5. Where alternatives exist in the selection of the large and small blocks, preference will be given to the selection of those blocks which provide the greatest spin-off benefits to other resource values, impacts to timber production being approximately equal.

Rationale: In some areas, old growth dependent species, such as elk, northern spotted owls, etc., may be approaching critical status. Spinoff benefits for these species should be maximized wherever possible.

During the upcoming decade, we will support and emphasize research aimed at determing what specific role, if any, is played by old growth ecosystems in the long term timber production outlook.

The promulgation of the new management criteria at this time catches each district at a different phase of our planning process.

In order to implement the criteria in as orderly a manner as possible, all districts should proceed as follows:

Coos Bay - complete draft decision document to include the integration of the new management criteria into the decision process as it has progressed to date. Plan to have it published and available to the public by September 15.

Salem (westside) - closely monitor the preparation of the Coos Bay decision dncument. Plan to complete your decision document as soon as practical after the completion of the Coos Bay process.

Salem (eastside) - should track as closely as possible behind your westside decision.

Roseburg - it will be necessary for you to revise your proposed action between draft and final ES so as to be consistent with the new criteria. This will necessitate a major re-write for the final rather than utiliziog the short-form approach as has been planned.

Eugene - it will be necessary for you to revise your proposed action so that the one that appears in your draft ES is consistent with the new criteria. This should be done as expeditiously as possible so that use can be made of the OSO ES team while it is still in place.

Medford - all that is required at this time is to coordinate the seral stage configuration in those areas where you share seed zones with adjoining districts. The formal implementation of the seral stage concept in your district will be accomplished during the next invertory/allowable cut cycle. This is scheduled to start in FY 86, however, earlier implementation could be considered when you have obtained conclusive results from your on-going TPCC revisions.

The development of a management posture during these unusual and critical economic times has been a long and difficult task. It has caused delays and added to the complexity of our planning process. Many issues were fully developed and discussed in depth. Such considerations and discussions were made possible by the excellent work done by various staff members as they functioned in the advocacy role called for by our planning systems. At this point in time, the major issues have been resolved. As we switch to an implementation mode, the dedication and technical competence of our entire staff becomes even more important, and their continuing support is critical to our operation. I will expect close coordination between districts and also with our State Office staff, so that the policy and criteria will be applied in a consistent manner, understandable to our publics.

Enclosure (1)
1 - Management Criteria

Distribution
Director (230) - 1 w/o encl.
SCD (D-559A) - 3 w/encl.

Appendix Table No. 1 Alternative Evaluations by NEPA Goals

	Alternatives									
	A	B	C	D	E	F	G	H	I	J
NEPAL GOAL NO.	Maximum Timber	Emphasis on Timber	Spotted Owl	Lower Minimum Harvest Size	No Action	Final EIS Proposed Action	No Herbicides	No ACE	Emphasis on Non-Timber	Emphasis on Wildlife
1	1.1	3.2	4.8	6.1	6.1	7.5	7.9	7.9	8.1	8.3
2	2.0	3.6	4.9	7.2	6.5	8.1	8.1	8.0	7.9	7.3
3	1.1	2.8	4.3	6.0	5.6	8.1	8.0	7.9	7.8	6.0
4	1.8	3.2	4.5	6.1	5.8	8.0	8.1	8.6	8.0	7.8
5	2.6	4.5	5.1	7.2	7.1	9.0	7.6	5.9	4.4	2.6
6	3.1	4.9	5.5	5.9	5.9	7.8	7.1	6.9	5.1	3.8
Average Rating	2.0	3.7	4.8	6.4	6.2	8.1	7.8	7.5	6.8	6.0
Overall Rank	10	9	8	5	6	1	2	3	4	7

Appendix Table No. 2 Seed Zone/Elevation Units

Seed Zone	Elevation
062	500 - 1,000
062	500 - 1,000
062	1,000 - 1,500
062	1,500 - 2,000
071	500 - 1,000
071	500 - 1,000
071	1,000 - 1,500
071	1,000 - 1,500
071	1,500 - 2,000
071	1,500 - 2,000
071	2,000 - 2,500
072	500 - 1,000
072	500 - 1,000
072	1,000 - 1,500
072	1,000 - 1,500
072	1,500 - 2,000
072	1,500 - 2,000
072	2,000 - 2,500
072	2,000 - 2,500
072	2,500 - 3,000
072	2,500 - 3,000
252	500 - 1,000

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